The Presidential Address

ON THE

INTER-DEPENDENCE OF SCIENCE AND THE HEALING ART.

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BY SIR JOSEPH LISTER, BART., M.B. LOND., F.R.C.S. ENG. & EDIN., D.C.L., LL.D., P.R.S.

MY LORD MAYOR, MY LORDS, LADIES, AND GENTLEMEN,—I have first to express my deep sense of gratitude for the great honour conferred upon me by my election to the high office which I occupy to-day. It came upon me as a great surprise. The engrossing claims of surgery have prevented me for many years from attending the meetings of the Association, which excludes from her sections medicine in all its branches. This severance of the art of healing from the work of the Association was right and indeed inevitable. Not that medicine has little in common with science. The surgeon never performs an operation without the aid of anatomy and physiology; and in what is often the most difficult part of his duty, the selection of the right course to follow, he, like the physician, is guided by pathology, the science of the nature of disease, which, though very difficult from the complexity of its subject matter, has made during the last half century astonishing progress, so that the practice of medicine in every department is becoming more and more based on science as distinguished from empiricism. I propose on the present occasion to bring before you some illustrations of the inter-dependence of science and the healing art.

[Sir Joseph Lister then referred as the first two of his illustrations to the Roentgen rays and anæsthetics, reminding his hearers that as regards the latter agents this was the jubilee year of the discovery of ether. He continued:]

My next illustration may be taken from the work of Fasteur on fermentation. The prevailing opinion regarding this class of phenomena when they first engaged his attention was that they were occasioned primarily by the oxygen of the air acting upon unstable animal or vegetable products, which, breaking up under its influence, communicated disturbance to other organic materials in their vicinity and thus led to their decomposition. Cagniard-Latour had indeed shown several years before that yeast consists essentially of the cells of a microscopic fungus which grows as the sweetwort ferments, and he had attributed the breaking up of the sugar into alcohol and carbonic acid to the growth of the micro-organism. In Germany Schwann, who independently discovered the yeast plant, had published very striking experiments in support of analogous ideas regarding the putrefaction of meat. Such views had also found other advocates, but they had become utterly discredited, largely through the great authority of Liebig, who bitterly opposed them.

Pasteur, having been appointed as a young man Dean of the Faculty of Sciences in the University of Lille, a town where the products of alcoholic fermentation were staple articles of manufacture, determined to study that process thoroughly, and as a result he became firmly convinced of the correctness of Cagniard-Latour's views regarding it. In the case of other fermentations, however, nothing fairly comparable to the formation of yeast had till then been observed. This was now done by Pasteur for that fermentation in which sugar is resolved into lactic acid. This lactic fermentation was at that time brought about by adding some animal substance, such as fibrin, to a solution of sugar, together with chalk that should combine with the acid as it was formed. Pasteur saw, what had never before been noticed, that a fine grey deposit was formed, differing little in appearance from the decomposing fibrin, but steadily increasing as the fermentation proceeded. Struck by the analogy presented by the increasing deposit to the growth of yeast in sweetwort he examined it with the microscope and found it to consist of minute particles of uniform size. Pasteur was not a biologist, but although these particles were of extreme minuteness in comparison with the constituents of the yeast plant he felt convinced that they were of an analogous nature, the cells of a tiny microscopic fungus. This he regarded as the essential ferment, the fibrin or other so-called ferment serving, as he believed, merely the purpose of supplying to the growing plant certain chemical ingredients not contained in the sugar but essential to its nutrition. And the correctness of this view he confirmed in a very striking manner by doing away with the fibrin or other animal material altogether and substituting for it mineral salts containing the requisite chemical elements. A trace of the grey deposit being applied to a solution of sugar containing these salts in addition to the chalk, a brisker lactic fermentation ensued than could be procured in the ordinary way.

I have referred to this research in some detail because it illustrates Pasteur's acuteness as an observer and his ingenuity in experiment, as well as his almost intuitive perception of truth. A series of other beautiful investigations followed, clearly proving that all true fermentations, including putrefaction, are caused by the growth of micro-organisms. It was natural that Pasteur should desire to know how the microbes which he showed to be the essential causes of the various fermentations took their origin. It was at that period a prevalent notion, even among many eminent naturalists, that such humble and minute beings originated *de novo* in decomposing organic substances; the doctrine of spontaneous generation, which had been chased successively from various positions which it once occupied among creatures visible to the naked eye, having taken its last refuge where the objects of study were of such minuteness that their habits and history were correspondingly difficult to trace. Here, again, Pasteur at once saw, as if by instinct, on which side the truth lay; and, perceiving its immense importance, he threw himself with ardour into its demonstration. I may describe briefly one class of experiments which he performed with this object. He charged a series of narrow-necked glass flasks with a decoction of yeast, a liquid peculiarly liable to alteration on exposure to the air. Having boiled the liquid in each flask to kill any living germs it might contain, he sealed its neck with a blow-pipe during ebullition, after which, the flask being allowed to cool, the steam within it condensed, leaving a vacuum above the liquid. If, then, the neck of the flask were broken in any locality the air at that particular place would rush in to fill the vacuum, carrying with it any living microbes that might be floating in it. The neck of the flask having been again sealed, any germs so introduced would in due time manifest their presence by developing in the clear liquid. When any of such a series of flasks were opened and re-sealed in an inhabited room, or under the trees of a forest, multitudes of minute living forms made their appearance in them; but if this was done in a cellar long unused, where the suspended organisms, like other dust, might be expected to have all fallen to the ground, the decoction remained perfectly clear and unaltered. The oxygen and other gaseous constituents of the atmosphere were thus shown to be of themselves incapable of inducing any organic development in yeast water. Such is a sample of the many well-devised experiments by which he carried to most minds the conviction that, as he expressed it, "la génération spontanée est une chimère," and that the humblest and minutest living organisms can only originate by parentage from beings like themselves. Pasteur pointed out the enormous importance of these humble organisms in the economy of nature. It is by their agency that the dead bodies of plants and animals are resolved into simpler compounds fitted for assimilation by new living forms. Without their aid the world would be, as Pasteur expresses it, *encombré de cadavres*. They are essential, not only to our well-being, but to our very existence. Similar microbes must have discharged the same necessary function of removing refuse and providing food for successive generations of plants and animals during the past periods of the world's history; and it is interesting to think that organisms as simple as can well be conceived to have existed when life first appeared upon our globe have in all probability propagated the same lowly but most useful offspring during the ages of geological time. Pasteur's labours on fermentation have had a very important influence upon surgery. I have been often asked to speak on my share in this matter before a public audience; but I have hitherto refused to do so, partly because the details are so entirely technical, but chiefly because I have felt an invincible repugnance to what might

seem to savour of self-advertisement. The latter objection now no longer exists, since advancing years have indicated that it is right for me to leave to younger men the practice of my dearly loved profession. And it will perhaps be expected that, if I can make myself intelligible, I should say something upon the subject on the present occasion.

[The President then gave a short account of the behaviour of wounds in the pre-antiseptic days and continued:]

It will be readily understood that the inflammation which so often frustrated the surgeon's endeavours after primary union was, in my opinion, essentially due to decomposition of blood within the wound. These and many other considerations had long impressed me with the greatness of the evil of putrefaction in surgery. I had done my best to mitigate it by scrupulous ordinary cleanliness and the use of various deodorant lotions. But to prevent it altogether appeared hopeless, while we believed with Liebig that its primary cause was the atmospheric oxygen which, in accordance with the researches of Graham, could not fail to be perpetually diffused through the porous dressings which were used to absorb the blood discharged from the wound. But when Pasteur had shown that putrefaction was a fermentation caused by the growth of microbes, and that these could not arise *de novo* in the decomposable substance, the problem assumed a more hopeful aspect. If the wound could be treated with some substance which, without doing too serious mischief to the human tissues, would kill the microbes already contained in it and prevent the future access of others in the living state, putrefaction might be prevented, however freely the air with its oxygen might enter. I had heard of carbolic acid as having a remarkable deodorising effect upon sewage, and having obtained from my colleague, Dr. Anderson, Professor of Chemistry in the University of Glasgow, a sample which he had of this product, then little more than a chemical curiosity in Scotland, I determined to try it in compound fractures. Applying it undiluted to the wound, with an arrangement for its occasional renewal, I had the joy of seeing these formidable injuries follow the same safe and tranquil course as simple fractures, in which the skin remains unbroken. At the same time we had the intense interest of observing in open wounds what had previously been hidden from human view—the manner in which subcutaneous injuries are repaired. Of special interest was the process by which portions of tissue killed by the violence of the accident were disposed of, as contrasted with what had till then been invariably witnessed. Dead parts had been always seen to be gradually separated from the living by an inflammatory process and thrown off as sloughs. But when protected by the antiseptic dressing from becoming putrid, and therefore irritating, a structure deprived of its life caused no disturbance in its vicinity; and, on the contrary, being of a nutritious nature, it served as pabulum for the growing elements of the neighbouring living structures, and these became in due time entirely substituted for it. Even dead bone was seen to be thus replaced by living osseous tissue. This suggested the idea of using threads of dead animal tissue for tying bloodvessels; and this was realised by means of catgut which is made from the intestine of the sheep. If deprived of living microbes and otherwise properly prepared catgut answers its purpose completely, the knot holding securely, while the ligature around the vessel becomes gradually absorbed and replaced by a ring of living tissue. The threads, instead of being left long as before, could now be cut short, and the tedious process of separation of the ligature with its attendant serious danger of bleeding was avoided.

[Sir Joseph Lister then referred to the early technique of the antiseptic method. Proceeding, he said:]

Nine years later, however, at the Berlin Congress in 1890, I was able to bring forward what was, I believe, absolute demonstration of the harmlessness of the atmospheric dust in surgical operations. This conclusion has been justified by subsequent experience: the irritation of the wound by antiseptic irrigation and washing may therefore now be avoided and nature left quite undisturbed to carry out her best methods of repair, while the surgeon may conduct his operations as simply as in former days, provided always that, deeply impressed with the tremendous importance of his object, and inspiring the same conviction in all his assistants, he vigilantly maintains from first to last, with a care that once learnt becomes instinctive, but for the want of which nothing else can compensate, the use of the simple means which will suffice to exclude from the wound the coarser forms of septic impurity. Even our earlier and ruder methods of carrying out the antiseptic principle soon produced a wonderful change in my surgical wards in the Glasgow Royal Infirmary, which, from being some of the most unhealthy in the Kingdom, became, as I believe I may say without exaggeration, the healthiest in the world; while other wards, separated from mine only by a passage a few feet broad, where former modes of treatment were for a while continued, retained their former insalubrity. This result, I need hardly remark, was not in any degree due to special skill on my part, but simply to the strenuous endeavour to carry out strictly what seemed to me a principle of supreme importance. Equally striking changes were afterwards witnessed in other institutions. Of these I may give one example. In the great Allgemeines Krankenhaus of Munich, hospital gangrene had become more and more rife from year to year, till at length the frightful condition was reached that 80 per cent. of all wounds became affected by it. It is only just to the memory of Professor von Nussbaum, then the head of that establishment, to say that he had done his utmost to check this frightful scourge; and that the evil was not caused by anything peculiar in his management was shown by the fact that in a private hospital under his care there was no unusual unhealthiness. The larger institution seemed to have become hopelessly infected, and the city authorities were contemplating its demolition and re-construction. Under these circumstances, Professor von Nussbaum despatched his chief assistant, Dr. Lindpaintner, to Edinburgh, where I at that time occupied the chair of clinical surgery, to learn the details of the antiseptic system as we then practised it. He remained until he had entirely mastered them, and after his return all the cases were on a certain day dressed on our plan. From that day forward not a single case of hospital gangrene occurred in the Krankenhaus. The fearful disease pyæmia likewise disappeared, and erysipelas soon followed its example. But it was by no means only in removing the unhealthiness of hospitals that the antiseptic system showed its benefits. Inflammation being suppressed with attendant pain, fever, and wasting discharge, the sufferings of the patient were, of course, immensely lessened; rapid primary union being now the rule, convalescence was correspondingly curtailed; while as regards safety and the essential nature of the mode of repair it became a matter of indifference whether the wound had clean-cut surfaces which could be closely approximated, or whether the injury inflicted had been such as to cause destruction of tissue. And operations which had been regarded from time immemorial as unjustifiable were adopted with complete safety. It pleases me to think that there is an ever-increasing number of practitioners throughout the world to whom this will not appear the language of exaggeration. There are cases in which, from the situation of the part concerned or other unusual circumstances, it is impossible to carry out the antiseptic system completely. These, however, are quite exceptional; and even in them much has been done to mitigate the evil which cannot be altogether avoided. I ask your indulgence if I have seemed to dwell too long upon matters in which I have been personally concerned. I now gladly return to the labours of others.

The striking results of the application of the germ theory to surgery acted as a powerful stimulus to the investigation of the nature of the micro-organisms concerned; and it soon appeared that putrefaction was by no means the only evil of microbic origin to which wounds were liable. I had myself very early noticed that hospital gangrene was not necessarily attended by any unpleasant odour; and I afterwards made a similar observation regarding the matter formed in a remarkable epidemic of erysipelas in Edinburgh obviously of infective character. I had also seen a careless dressing followed by the occurrence of suppuration without putrefaction. And as these non-putrefactive disorders had the same self-propagating property as ferments, and were suppressed by the same antiseptic agencies which were used for combating the putrefactive microbes, I did not doubt that they were of an analogous origin; and I ventured to express the view that, just as the various fermentations had each its special microbe, so it might be with the various complications of wounds. This surmise was afterwards amply verified. Professor Ogston of Aberdeen was an early worker in this field, and showed that in acute abscesses—that is to say, those which run a rapid course—

the matter, although often quite free from unpleasant odour, invariably contains micro-organisms belonging to the group which, from the spherical form of their elements, are termed micrococci; and these he classed as streptococci or staphylococci according as they were arranged in chains or disposed in irregular clusters like bunches of grapes. The German pathologist, Fehleisen, followed with a beautiful research, by which he clearly proved that erysipelas is caused by a streptococcus. A host of earnest workers in different countries have cultivated the new science of bacteriology, and while opening up a wide fresh domain of biology have demonstrated in so many cases the causal relation between special micro-organisms and special diseases not only in wounds but in the system generally as to afford ample confirmation of the induction which had been made by Pasteur that all infective disorders are of microbic origin. Not that we can look forward with anything like confidence to being able ever to see the *materies morbi* of every disease of this nature. One of the latest of such discoveries has been that by Pfeiffer of Berlin of the bacillus of influenza, perhaps the most minute of all micro-organisms ever yet detected. The bacillus of anthrax, the cause of a plague common among cattle in some parts of Europe, and often communicated to sorters of foreign wool in this country, is a giant as compared with this tiny being; and supposing the microbe of any infectious fever to be as much smaller than the influenza bacillus as this is less than that of anthrax, a by no means unlikely hypothesis, it is probable that it would never be visible to man. The improvements of the microscope, based on the principle established by my father in the earlier part of the century, have apparently nearly reached the limits of what is possible. But that such parasites are really the causes of all this great class of diseases can no longer be doubted.

The first rational step towards the prevention or cure of disease is to know its cause; and it is impossible to overestimate the practical value of researches such as those to which I am now referring. Among their many achievements is what may be fairly regarded as the most important discovery ever made in pathology, because it revealed the true nature of the disease which causes more sickness and death in the human race than any other. It was made by Robert Koch, who greatly distinguished himself when a practitioner in an obscure town in Germany by the remarkable combination of experimental acuteness and skill, chemical and optical knowledge, and successful micro-photography, which he brought to bear upon the illustration of infective diseases of wounds in the lower animals; in recognition of which service the enlightened Prussian Government at once appointed him to an official position of great importance in Berlin. There he conducted various important researches; and at the London Congress in 1881 he showed to us for the first time the bacillus of tubercle. Wonderful light was thrown by this discovery upon a great group of diseases which had before been rather guessed than known to be of an allied nature; a precision and efficacy never before possible was introduced into their surgical treatment, while the physician became guided by new and sure light as regards their diagnosis and prevention. At that same London Congress Koch demonstrated to us his "plate culture" of bacteria, which was so important that I must devote a few words to its description. With a view to the successful study of the habits and effects of any particular microbe outside the living body it is essential that it should be present unmixed in the medium in which it is cultivated. It can be readily understood how difficult it must have been to isolate any particular micro-organism when it existed mixed, as was often the case, with a multitude of other forms. In fact, the various ingenious attempts made to effect this object had often proved entire failures. Koch, however, by an ingenious procedure converted what had been before impossible into a matter of the utmost facility. In the broth or other nutrient liquid which was to serve as food for the growing microbe he dissolved, by aid of heat, just enough gelatin to ensure that, while it should become a solid mass when cold, it should remain fluid though reduced in temperature so much as to be incapable of killing living germs. To the medium thus partially cooled was added some liquid containing, among others, the microbe to be investigated; and the mixture was thoroughly shaken so as to diffuse the bacteria and separate them from each other. Some of the liquid was then poured out in a thin layer upon a glass plate and allowed to cool so as to assume the solid form. The various microbes, fixed in the gelatin and so prevented from intermingling, proceeded to develop each its special progeny, which in course of time showed itself as an opaque speck in the transparent film. Any one of such specks could now be removed and transferred to another vessel in which the microbe composing it grew in perfect isolation. Pasteur was present at this demonstration and expressed his sense of the great progress effected by the new method. It was soon introduced into his own institute and other laboratories throughout the world, and it has immensely facilitated bacteriological study. One fruit of it in Koch's own hands was the discovery of the microbe of cholera in India, whither he went to study the disease. This organism was termed by Koch from its curved form the "comma bacillus," and by the French the "cholera vibrio." Great doubts were for a long time felt regarding this discovery. Several other kinds of bacteria were found of the same shape, some of them producing very similar appearances in culture media. But bacteriologists are now universally agreed that, although various other conditions are necessary to the production of an attack of cholera besides the mere presence of the vibrio, yet it is the essential *materies morbi*, and it is by the aid of the diagnosis which its presence in any case of true cholera enables the bacteriologist to make that threatened invasions of this awful disease have of late years been so successfully repelled from our shores. If bacteriology had done nothing more for us than this it might well have earned our gratitude.

I have next to invite your attention to some earlier work of Pasteur. There is a disease known in France under the name of *choléra des poules*, which often produced great havoc among the poultry yards of Paris. It had been observed that the blood of birds that had died from this disease was peopled by a multitude of minute bacteria not very dissimilar in form and size to the microbe of the lactic ferment to which I have before referred. And Pasteur found that if this bacterium was cultivated outside the body for a protracted period under certain conditions it underwent a remarkable diminution of its virulence; so that, if inoculated into a healthy fowl, it no longer caused the death of the bird, as it would have done in its original condition, but produced a milder form of the disease which was not fatal. And the altered character of the microbe, caused by certain conditions, was found to persist in successive generations cultivated in the ordinary way. Thus was discovered the great fact of what Pasteur termed the *atténuation des virus*, which at once gave the clue to understanding what had before been quite mysterious—the difference in virulence of the same disease in different epidemics. But he made the further very important observation that a bird which had gone through the mild form of the complaint had acquired immunity against it in its most virulent condition. Pasteur afterwards succeeded in obtaining mitigated varieties of microbes for some other diseases, and he applied with great success the principle which he had discovered in fowl-cholera for protecting the larger domestic animals against the plague of anthrax. The preparations used for such preventive inoculations he termed "vaccins" in honour of our great countryman, Edward Jenner. For Pasteur at once saw the analogy between the immunity to fowl-cholera produced by its attenuated virus and the protection afforded against small-pox by vaccination. And while pathologists still hesitated he had no doubt of the correctness of Jenner's expression *variolæ vaccinæ*, or small-pox in the cow. It is just a hundred years since Jenner made the crucial experiment of inoculating with small-pox a boy whom he had previously vaccinated, the result being, as he anticipated, that the boy was quite unaffected. It may be remarked that this was a perfectly legitimate experiment, involving no danger to the subject of it. Inoculation was at that time the established practice; and if vaccination should prove nugatory the inoculation would be only what would have been otherwise called for, while it would be perfectly harmless if the hoped-for effect of vaccination had been produced. We are a practical people, not much addicted to personal commemorations, although our nation did indeed celebrate with fitting splendour the jubilee of the reign of our beloved Queen, and at the invitation of Glasgow the scientific world has lately marked in a manner, though different, as imposing the jubilee of the life-work of a sovereign in science (Lord Kelvin). But while we cannot be astonished that the centenary of Jenner's immortal discovery should have failed to receive general recognition in this country it is melancholy to think that

this year should in his native county have been distinguished by a terrible illustration of the results which would sooner or later inevitably follow the general neglect of his prescriptions. I have no desire to speak severely of the Gloucester guardians. They are not sanitary authorities and had not the technical knowledge necessary to enable them to judge between the teachings of true science and the declamations of misguided, though well-meaning, enthusiasts. They did what they believed to be right; and when roused to a sense of the greatness of their mistake they did their very best to repair it, so that their city is said to be now the best vaccinated in Her Majesty's dominions. But though by their praiseworthy exertions they succeeded in promptly checking the raging epidemic, they cannot recall the dead to life or restore beauty to marred features or sight to blinded eyes. Would that the entire country and our Legislature might take duly to heart this object lesson. How completely the medical profession were convinced of the efficacy of vaccination in the early part of this century was strikingly illustrated by an account given by Professor Crookshank in his interesting history of this subject of several eminent medical men in Edinburgh meeting to see the, to them, unprecedented fact of a vaccinated person having taken small-pox. It has, of course, since become well known that the milder form of the disease, as modified by passing through the cow, confers a less permanent protection than the original human disorder. This it was, of course, impossible for Jenner to foresee. It is, indeed, a question of degree, since a second attack of ordinary small-pox is occasionally known to occur, and vaccination, long after it has ceased to give perfect immunity, greatly modifies the character of the disorder and diminishes its danger. And, happily, in re-vaccination after a certain number of years we have the means of making Jenner's work complete. I understand that the majority of the commissioners, who have recently issued their report upon this subject, while recognising the value and importance of re-vaccination, are so impressed with the difficulties that would attend making it compulsory by legislation that they do not recommend that course; although it is advocated by two of their number who are of peculiarly high authority on such a question. I was lately told by a Berlin professor that no serious difficulty is experienced in carrying out the compulsory law that prevails in Germany. The masters of the schools are directed to ascertain in the case of every child attaining the age of twelve years whether re-vaccination has been practised. If not, and the parents refuse to have it done, they are fined one mark. If this does not prove effectual the fine is doubled; and if even the double penalty should not prove efficacious a second doubling of it would follow, but, as my informant remarked, it is very seldom that it is called for. The result is that small-pox is a matter of extreme rarity in that country, while it is absolutely unknown in the huge German army in consequence of the rule that every soldier is re-vaccinated on entering the service. Whatever view our Legislature may take on this question, one thing seems to me clear: that it will be the duty of Government to encourage by every available means the use of calf lymph, so as to exclude the possibility of the communication of any human disease to the child, and to institute such efficient inspection of vaccination institutes as shall ensure careful antiseptic arrangements, and so prevent contamination by extraneous microbes. If this were done, "conscientious objections" would cease to have any rational basis. At the same time, the administration of the regulations on vaccination should be transferred (as advised by the Commissioners) to competent sanitary authorities.

But to return to Pasteur. In 1880 he entered upon the study of that terrible but then most obscure disease, hydrophobia or rabies, which from its infective character he was sure must be of microbic origin, although no micro-organism could be detected in it. He early demonstrated the new pathological fact that the virus had its essential seat in the nervous system. This proved the key to his success in this subject. One result that flowed from it has been the cause of unspeakable consolation to many. The foolish practice is still too prevalent of killing the dog that has bitten any one, on the absurd notion that if it were mad its destruction would prevent the occurrence of hydrophobia in the person bitten. The idea of the bare possibility of the animal having been so affected causes an agony of suspense during the long weeks or months of possible incubation of the disease. Very serious nervous symptoms aping true hydrophobia have been known to result from the terror thus inspired. Pasteur showed that if a little of the brain or spinal cord of a dog that had been really mad was inoculated in an appropriate manner into a rabbit it infallibly caused rabies in that animal in a few days. If therefore such an experiment was made with a negative result, the conclusion might be drawn with certainty that the dog had been healthy. It is perhaps right that I should say that the inoculation is painlessly done under an anæsthetic, and that in the rabbit rabies does not assume the violent form that it does in the dog, but produces gradual loss of power with little if any suffering. This is the more satisfactory because rabbits in which the disease has been thus artificially induced are employed in carrying out what was Pasteur's greatest triumph, the preventive treatment of hydrophobia in the human subject. We have seen that Pasteur discovered that microbes might under some circumstances undergo mitigation of their virulence. He afterwards found that under different conditions they might have it exalted, or, as he expressed it, there might be a *renforcement du virus*. Such proved to be the case with rabies in the rabbit, so that the spinal cords of animals which had died from it contained the poison in a highly intensified condition. But he also found that if such a highly virulent cord was suspended under strict antiseptic precautions in a dry atmosphere at a certain temperature, it gradually from day to day lost in potency, till in course of time it became absolutely inert. If now an emulsion of such a harmless cord was introduced under the skin of an animal, as in the subcutaneous administration of morphia, it might be followed without harm another day by a similar dose of a cord still rather poisonous; and so from day to day stronger and stronger injections might be used, the system becoming gradually accustomed to the poison, till a degree of virulence had been reached far exceeding that of the bite of a mad dog. When this had been attained, the animal proved incapable of taking the disease in the ordinary way; and more than that, if such treatment was adopted after an animal had already received the poison, provided that too long a time had not elapsed, the outbreak of the disease was prevented. It was only after great searching of heart that Pasteur, after consultation with some trusted medical friends, ventured upon trying this practice upon man. It has since been extensively adopted in various parts of the world with increasing success as the details of the method were improved. It is not of course the case that every one bitten by a really rabid animal takes the disease, but the percentage of those who do so, which was formerly large, has been reduced almost to zero by this treatment, if not too long delayed. While the intensity of rabies in the rabbit is undoubtedly due to a peculiarly virulent form of the microbe concerned, we cannot suppose that the daily diminishing potency of the cord suspended in dry warm air is an instance of attenuation of virus, using the term "virus" as synonymous with the microbe concerned. In other words, we have no reason to believe that the special micro-organism of hydrophobia continues to develop in the dead cord and produce successively a milder and milder progeny, since rabies cannot be cultivated in the nervous system of a dead animal. We must rather conclude that there must be some chemical poison present which gradually loses its potency as time passes; and this leads me to refer to another most important branch of this large subject of bacteriology, that of the poisonous products of microbes.

It was shown several years ago by Roux and Yersin, working in the Institut Pasteur, that the crust or false membrane which forms upon the throats of patients affected with diphtheria contains bacteria which can be cultivated outside the body in a nutrient liquid, with the result that it acquires poisonous qualities of astonishing intensity, comparable to that of the secretion of the poison-glands of the most venomous serpents. And they also ascertained that the liquid retained this property after the microbes had been removed from it by filtration, which proved that the poison must be a chemical substance in solution, as distinguished from the living element which had produced it. These poisonous products of bacteria, or toxins as they have been termed, explain the deadly effects of some microbes, which it would otherwise be impossible to understand. Thus, in diphtheria itself the special bacillus which was shown by Löffler to be its cause, does not become propagated in the blood, like the microbe of chicken cholera, but remains confined to the surface on which it first appeared; but the toxin which it secretes is absorbed from that surface into the blood and

so poisons the system. Similar observations have been made with regard to the microbes of some other diseases, as, for example, the bacillus of tetanus or lockjaw. This remains localised in the wound, but forms a special toxin of extreme potency, which becomes absorbed and diffused through the body. Wonderful as it seems, each poisonous microbe appears to form its own peculiar toxin. Koch's tuberculin was of this nature, a product of the growth of the tubercle bacillus in culture media. Here, again, great effects were produced by extremely minute quantities of the substance, but here a new peculiarity showed itself—viz., that patients affected with tuberculous disease in any of its varied forms, exhibited inflammation in the affected part and general fever after receiving under the skin an amount of the material which had no effect whatever upon healthy persons. I witnessed in Berlin some instances of these effects, which were simply astounding. Patients affected with a peculiar form of obstinate ulcer of the face showed, after a single injection of the tuberculin, violent inflammatory redness and swelling of the sore and surrounding skin; and, what was equally surprising, when this disturbance subsided the disease was found to have undergone great improvement. By repetitions of such procedures ulcers which had previously been steadily advancing, in spite of ordinary treatment, became greatly reduced in size, and in some instances apparently cured. Such results led Koch to believe that he had obtained an effectual means of dealing with tuberculous disease in all its forms. Unhappily the apparent cure proved to be only of transient duration and the high hopes which had been inspired by Koch's great reputation were dashed. It is but fair to say that he was strongly urged to publish before he was himself disposed to do so, and we cannot but regret that he yielded to the pressure put upon him. But though Koch's sanguine anticipations were not realised it would be a great mistake to suppose that his labours with tuberculin have been fruitless. Cattle are liable to tubercle, and when affected with it may become a very serious source of infection for human beings, more especially when the disease affects the udders of cows, and so contaminates the milk. By virtue of the close affinity that prevails between the lower animals and ourselves, in disease as well as in health, tuberculin produces fever in tuberculous cows in doses which do not affect healthy beasts. Thus, by the subcutaneous use of a little of the fluid, tubercle latent in internal organs of an apparently healthy cow can be with certainty revealed, and the slaughter of the animal after this discovery protects man from infection.

It has been ascertained that glanders presents a precise analogy with tubercle as regards the effects of its toxic products. If the microbe which has been found to be the cause of this disease is cultivated in appropriate media, it produces a poison which has received the name of mallein, and the subcutaneous injection of a suitable dose of this fluid into a glandered horse causes striking febrile symptoms which do not occur in a healthy animal. Glanders, like tubercle, may exist in insidious latent forms which there was formerly no means of detecting, but which are at once disclosed by this means. If a glandered horse has been accidentally introduced into a large stable, this method of diagnosis surely tells if it has infected others. All receive a little mallein. Those which become affected with fever are slaughtered, and thus not only is the disease prevented from spreading to other horses, but the grooms are protected from a mortal disorder. This valuable resource sprang from Koch's work on tuberculin, which has also indirectly done good in other ways. His distinguished pupil, Behring, has expressly attributed to those researches the inspiration of the work which led him and his since famous collaborator, the Japanese Kitasato, to their surprising discovery of antitoxic serum. They found that if an animal of a species liable to diphtheria or tetanus received a quantity of the respective toxin, so small as to be harmless, and afterwards, at suitable intervals, successively stronger and stronger doses, the creature in course of time acquired such a tolerance for the poison as to be able to receive with impunity a quantity very much greater than would at the outset have proved fatal. So far we have nothing more than seems to correspond with the effects of the increasingly potent cords in Pasteur's treatment of rabies. But what was entirely new in their results was that, if blood was drawn from an animal which had acquired this high degree of artificial immunity and some of the clear fluid or serum which exuded from it after it had clotted was introduced under the skin of another animal, this second animal acquired a strong though more transient immunity against the particular toxin concerned. The serum in some way counteracted the toxin or was antitoxic. But, more than that, if some of the antitoxic serum was applied to an animal after it had already received a poisonous dose of the toxin, it preserved the life of the creature, provided that too long a time had not elapsed after the poison was introduced. In other words, the antitoxin proved to be not only preventive but curative. Similar results were afterwards obtained by Ehrlich, of Berlin, with some poisons not of bacterial origin, but derived from the vegetable kingdom; and quite recently the independent labours of Calmette of Lille and Fraser of Edinburgh have shown that antidotes of wonderful efficacy against the venom of serpents may be procured on the same principle. Calmette has obtained antitoxin so powerful that a quantity of it—only a 200,000th part of the weight of an animal—will protect it perfectly against a dose of the secretion of the poison glands of the most venomous serpents known to exist, which without such protection would have proved fatal in four hours. For curative purposes larger quantities of the remedy are required, but cases have already been published by Calmette in which death appears to have been averted in the human subject by this treatment. Behring's darling object was to discover means of curing tetanus and diphtheria in man. In tetanus the conditions are not favourable, because the specific bacilli lurk in the depths of the wound and only declare their presence by symptoms caused by their toxin having been already in a greater or less amount diffused through the system; and in every case of this disease there must be a fear that the antidote may be applied too late to be useful. But in diphtheria the bacilli very early manifest their presence by the false membrane which they cause upon the throat, so that the antitoxin has a fair chance; and here we are justified in saying that Behring's object has been attained. The problem, however, was by no means so simple as in the case of some mere chemical poison. However effectual the antitoxin might be against the toxin, if it left the bacilli intact not only would repeated injections be required to maintain the transient immunity to the poison perpetually secreted by the microbes, but the bacilli might by their growth and extension cause obstruction of the respiratory passages. Roux, however, whose name must always be mentioned with honour in relation to this subject, effectually disposed of this difficulty. He showed by experiments on animals that a diphtheritic false membrane, rapidly extending and accompanied by surrounding inflammation, was brought to a stand by the use of the antitoxin and soon dropped off, leaving a healthy surface. Whatever be the explanation, the fact was thus established that the antitoxic serum, while it renders the toxin harmless, causes the microbe to languish and disappear. No theoretical objection could now be urged against the treatment; and it has during the last two years been extensively tested in practice in various parts of the world, and it has gradually made its way more and more into the confidence of the profession. One important piece of evidence in its favour in this country is derived from the report of the six large hospitals under the management of the London Asylums Board. The medical officers of these hospitals at first naturally regarded the practice with scepticism; but as it appeared to be at least harmless, they gave it a trial, and during the year 1895 it was very generally employed upon the 2182 cases admitted; and they have all become convinced of its great value. In the nature of things, if the theory of the treatment is correct, the best results must be obtained when the patients are admitted at an early stage of the attack, before there has been time for much poisoning of the system; and accordingly we learn from the report that, comparing 1895 with 1894, during which latter year the ordinary treatment had been used, the percentage of mortality, in all the six hospitals combined, among the patients admitted on the first day of the disease, which in 1894 was 22·5, was only 4·6 in 1895; while for those admitted on the second day the numbers are 27 for 1894 and 14·8 for 1895. Thus for cases admitted on the first day the mortality was only one-fifth of what it was in the previous year, and for those entering on the second it was halved. Unfortunately in the low parts of London, which furnish most of these patients, the parents too often delay sending in the children till much later; so that on the average no less than 67·5 per cent. were admitted on the fourth day of the

disease or later. Hence the aggregate statistics of all cases are not nearly so striking. Nevertheless, taking it altogether, the mortality in 1895 was less than had ever before been experienced in those hospitals. I should add that there was no reason to think that the disease was of a milder type than usual in 1895; and no change whatever was made in the treatment except as regards the antitoxic injections.

There is one piece of evidence recorded in the report which, though it is not concerned with high numbers, is well worthy of notice. It relates to a special institution to which convalescents from scarlet fever are sent from all the six hospitals. Such patients occasionally contract diphtheria, and when they do so the added disease has generally proved extremely fatal. In the five years preceding the introduction of the treatment with antitoxin the mortality from this cause had never been less than 50 per cent., and averaged on the whole 61·9 per cent. During 1895 under antitoxin the deaths among the 119 patients of this class were only 7·5 per cent., or one-eighth of what had been previously experienced. This very striking result seems to be naturally explained by the fact that these patients being already in hospital when the diphtheria appeared an unusually early opportunity was afforded for dealing with it. There are certain cases of so malignant a character from the first that no treatment will probably ever be able to cope with them. But taking all cases together it seems probable that Behring's hope that the mortality may be reduced to 5 per cent. will be fully realised when the public become alive to the paramount importance of having the treatment commenced at the outset of the disease. There are many able workers in the field of bacteriology whose names time does not permit me to mention and to whose important labours I cannot refer; and even those researches of which I have spoken have been, of course, most inadequately dealt with. I feel this especially with regard to Pasteur, whose work shines out more brightly the more his writings are perused.

I have, lastly, to bring before you a subject which, though not bacteriological, has intimate relations with bacteria.

[Sir Joseph Lister then described Metchnikoff's observations on phagocytosis. He concluded,]

I was myself peculiarly interested by these observations of Metchnikoff's because they seemed to me to afford clear explanation of the healing of wounds by first intention under circumstances before incomprehensible. This primary union was sometimes seen to take place in wounds treated with water-dressing; that is to say, a piece of wet lint covered with a layer of oiled silk to keep it moist. This, though cleanly when applied, was invariably putrid within twenty-four hours. The layer of blood between the cut surfaces was thus exposed at the outlet of the wound to a most potent septic focus. How was it prevented from putrefying, as it would have done under such influence if, instead of being between divided living tissues, it had been between plates of glass or other indifferent material? Pasteur's observations pushed the question a step further. It now was, How were the bacteria of putrefaction kept from propagating in the decomposable film? Metchnikoff's phagocytosis supplied the answer. The blood between the lips of the wound become rapidly peopled with phagocytes, which kept guard against the putrefactive microbes and seized them as they endeavoured to enter. If phagocytosis was ever able to cope with septic microbes in so concentrated and intense a form it could hardly fail to deal effectually with them in the very mitigated condition in which they are present in the air. We are thus strongly confirmed in our conclusion that the atmospheric dust may safely be disregarded in our operations; and Metchnikoff's researches, while they have illumined the whole pathology of infective diseases, have beautifully completed the theory of antiseptic treatment in surgery. I might have taken equally striking illustrations of my theme from other departments in which microbes play no part. In fact, any attempt to speak of all that the art of healing has borrowed from science and contributed to it during the past half-century would involve a very extensive dissertation on pathology and therapeutics. I have culled specimens from a wide field; and I only hope that in bringing them before you I have not overstepped the bounds of what is fitting before a mixed company. For many of you my remarks can have had little if any novelty; for others they may perhaps possess some interest as showing that medicine is no unworthy ally of the British Association—that, while her practice is ever more and more based on science the ceaseless efforts of her votaries to improve what have been fittingly designed *Quæ prosunt omnibus artes*, are ever adding largely to the sum of abstract knowledge.

An Address

UPON

THE POSITION OF SANITARY INSPECTORS.

Delivered at the Conference of Sanitary Inspectors at Newcastle-on-Tyne on Sept. 3rd, 1896,

BY GEORGE REID, M.D., D.P.H. ABERD.,
MEDICAL OFFICER OF HEALTH, STAFFORDSHIRE COUNTY COUNCIL, PRESIDENT OF CONFERENCE

[AFTER a few preliminary remarks Dr. Reid drew attention to the disabilities under which sanitary inspectors labour and the need for their removal; he continued:]

I propose in my short address to direct your attention, first, to the matters we have to complain of, and, secondly, to the means by which, in my opinion, they may be remedied with the least possible delay and the smallest amount of friction. Our chief grievances may shortly be summed up as follows: (1) the frequent disregard by authorities, in appointing their officers, of evidence of qualification in the shape of experience and training in sanitary work; (2) the insecurity of tenure in such appointments; and (3) inadequate salaries and allowances. A few years ago I had occasion to inquire into this question rather fully in preparing a paper for the International Congress of Hygiene and Demography, which met in London in 1891. I then collected much valuable information relating to other countries as well as our own, but I only propose to refer to-day to certain returns I received from the county in which I am more immediately interested, and which, being largely rural as well as urban in character, is fairly representative of England generally. I do not propose to comment upon the conditions of such appointments in the case of inspectors of large towns, as our grounds of complaint more especially, although not entirely, apply to non-county boroughs and small urban and rural districts. As regards the salaries paid in the case of towns of under 50,000 and over 30,000 inhabitants, I find the amount, on an average, is about £2 a week—the wages of a skilled artisan. Among the smaller towns the salaries paid vary very much, and extra duties of a varying nature, and not necessarily connected with sanitary work, are frequently imposed. For example, in one town with a population approaching 20,000 the inspector receives for sanitary work £35 a year, whereas in another town with only 6000 inhabitants the salary for inspector's work proper is £80. The contrast is still more marked, however, for in the former case the salary is made up to £95 in return for additional work as a rate collector, while in the latter (the town of 6000 inhabitants) the salary is supplemented to £365, and extra duties as surveyor, engineer of a waterworks, and inspector of a rural district are also included; he is expected, however, to provide himself with assistants. In another case the inspector, who is also rate collector, is paid the munificent joint-salary of £35 a year. In less than one-half only of the urban districts from which I received returns (thirty-nine in number) was there permanency of tenure in these appointments. In nine only of the thirty-nine urban districts did the inspector possess any knowledge of his duties previously to his appointment, and in three instances only were any definite conditions as to previous knowledge imposed on candidates. It is but fair to mention, however, that in many of the cases no recent vacancy had occurred; still, in seventeen instances appointments had been made within five years previously to the inquiry, and in six only of these did the persons appointed possess any previous knowledge of their duties. With regard to the previous occupations of the inspectors holding appointments in the urban districts in question they were too varied to enumerate, but policemen, rate collectors, clerks, and farmers formed the bulk of them.

In the schedule of questions in connexion with this inquiry I included the following: "Are you of opinion that you can efficiently discharge your duties as inspector, or do you consider that your district is too extensive or that other duties (if you have any) occupy too much of your time?" From the answers received to this question it appeared that in no less than twelve instances in the case of towns with over 15,000 inhabitants the inspectors admitted their inability

to perfom their duties properly, the reason given in four instances being that the supervision of refuse removal—work which, I suggest, might very well be entrusted to an assistant—occupied too much of their time. That so many negative replies to this last question should have been received is not surprising when we consider that the range of population entrusted to one inspector, without the imposition of other duties, varied from about 50,000 to only quarter that number, showing on the face of it either that in the one case the work was excessive or in the other too small. With regard to rural districts, I took area in place of population as a basis of classification, and I found in this case also that the salaries varied greatly without any regard to the size of the districts. Also in a large proportion of cases other duties, such as those of inspectors of urban districts, rate collectors, school attendance officers, vaccination officers, &c., were included. In four instances only out of eighteen rural districts from which returns were received was this not the case, and, oddly enough, two of these were the smallest districts. I found also that in many cases the emoluments from extraneous work formed the greater portion of joint salaries, and that in the case of three appointments, not only were the inspectors permitted to undertake other work, but no limit was attached to this permission. In these three instances the extraneous occupations followed were in one case "various," in another that of an architect, and in the third that of a house and estate agent. In none of the rural districts were the inspectors allowed travelling expenses. In one case only was any previous sanitary knowledge required, and, as in the case of the urban districts, the persons appointed had usually been policemen, farmers, clerks, &c. In reply to the question whether the duties could efficiently be performed, no fewer than ten of the eighteen rural inspectors answered in the negative, some asserting that other duties, apart from those of an inspector, occupied too much of their time, although, at the same time, they said that if they were not permitted to undertake these extra duties there would be little left for them to live upon after paying expenses. Now there are cases, no doubt, in which it may be necessary, owing to the smallness of districts, either to combine with adjoining districts in the appointment of officers or to impose certain duties in addition to those which strictly speaking are included in a sanitary inspector's work. In the latter case, however, the additional work imposed should, if possible, be allied to the work of an inspector, and I throw out as a suggestion that in the appointment of registrars of births and deaths we have a means, not only of supplementing the salaries of inspectors of small districts, but also of effecting a much needed reform in public health administration. It is almost incredible that such appointments should be held by tailors, grocers, and other shopkeepers, who can know absolutely nothing of what should be required of them. The work would undoubtedly be far better done by sanitary inspectors under the superintendence of medical officers of health.

Another necessary reform in this direction is the abolition of the practice which still prevails in some districts of entrusting to the police the duty of inspecting lodging-houses, slaughter-houses, &c. To put the matter plainly, then, the views of local authorities regarding such appointments may be expressed as follows: "There are certain appointments which must be made, involving duties which must be done; here is an appointment the duties of which are less clearly defined; let us tack it on to the others in order to help to make up one man's salary, and, if he has any time to spare after doing the essential part of his work, he can devote it to sanitary inspection." Bad as things are, however, we have perhaps less to complain of on the ground of physical comfort than some of our friends in the north If those of you who may not have seen the First Annual Report of the Local Government Board of Scotland, which has just been published, will excuse the digression I should like to quote one or two paragraphs from a report by a sanitary inspector in Skye which is published in that document. It reads as follows: "During the year I travelled on foot in the discharge of my duties 2967 miles, much of the distance during the night and in stormy weather. I made 1758 inspections, disinfected 117 houses, nine school-houses (some of them twice), and two meeting-houses, inspected two fishing fleets and five fish-curing stations, dealing with and effecting the removal of five nuisances from them. On two different occasions, when dealing with infected houses, I was kept out of lodgings all night without shelter during very inclement weather, walking about to keep up circulation until daylight, as I could not get on with disinfecting in the dark. I had twice to walk twenty-five and a half miles each time from infected premises to my own house during the night, once thirty-one miles, once thirty-three miles, and once from Flodigarry, by Kilmalnag and Kilmuir, to Portree, a distance of upwards of thirty miles, much of the way in the night time, as I could not get a place to lodge in, the people being so afraid of infection; but if they had as much fear of the want of cleanliness in their houses and of their persons there would be fewer cases of infection to be afraid of. I had, along with Dr. Dewar, district medical officer, to coffin the bodies of persons dying of infectious disease, carrying the coffin between us to the cart, and drive the cart to the graveyard; I entered fever-stricken houses, stripped down all hangings, cleaned out furniture and rubbish; carried away and burned straw, hay, and litter; disinfected blankets, sheets, bedding, sacks, wool, and wearing apparel; carried fever patients from their beds to conveyances, drove same to hospital, carried them in and placed them in bed. Had for several nights to lie on hard floor of ante-room of hospital, as I would not be allowed by my neighbours to enter my own house. Had to act as porter and messenger at the hospital during occupancy by patients, as no person on any consideration could be got in the place to act. I cleaned out the beds, emptied tickings of all stuffing, burning the same; disinfected and steeped blankets, sheets, and ticking, and, with the assistance of the patient's mother, washed them; attended to their drying and folding alone, as no woman would go near the work. I also received, conveyed to, and fitted up the beds and furniture in the hospital. District sanitary inspectors in other places consider this sort of work *special*, for which another man should be in hand to attend to."

[Dr. Reid here made an eloquent appeal for the placing of sanitary inspectors on a better footing and continued:]

So much for the disease; what is to be the remedy? We appeal in vain to the Local Government Board for help. Whatever the cause may be that department of the Government, although perfectly well aware of the grievances which exist, does nothing to help us beyond mildly remonstrating with local authorities when their proposals overstep the bounds even of their endurance. The fact is, the department is overwhelmed with work, much, indeed most, of which has no direct relationship to public health, and it is fettered by red tape. Being already in existence as a Poor-law authority, it was entrusted with the charge of rather a troublesome infant which has rapidly outgrown its clothes, and now, having come of age, is entitled to a separate and independent existence. Sooner or later we must have a Government health department pure and simple, with a Minister at its head. This is the big reform we are all hoping for, but I fear we shall have some time to wait for it, and meanwhile a means of remedying our more pressing grievances must if possible be found. Every effort must be made to ensure that the new Public Health Act for England, which it is believed will soon be introduced, shall require that all applicants for inspectors' posts in the future shall be qualified and that they shall have security of tenure so long as they efficiently discharge their duties. More, however, than this is wanted. We must have some guarantee that the salaries paid are adequate, and that inspectors are not dismissed from office without proper inquiry into the circumstances by an impartial, reliable, and active authority. The Local Government Act of 1888 brought into existence county councils, to which were entrusted, among other important administrative functions, certain somewhat limited sanitary duties, which have since been extended in important directions. Their powers, however, are permissive, and many county councils have not exercised them, no doubt because of the idea that they are too limited in their extent to be of much service if put into operation. That this is a mistaken idea has been proved by the excellent work which those councils who have exercised their powers have effected, and I feel satisfied that if the supervisory powers now exercised—or, rather, not exercised—by the Local Government Board were transferred to county councils—the central board acting as an appeal authority—we should no longer have cause to grumble. Most local authorities have at any rate a minority among their members who do not allow personal considerations to interfere with the honest discharge of their duties, and these are the men who, as a rule, are elected to represent their

respective districts on the central councils. It follows, therefore, that these councils, in the main, are composed of large-minded and sensible men who do not allow private interests to stand in the way of their public duties, and who are capable of forming a just and impartial view of questions which come before them. These, then, I suggest, are the remedies for grievances which, in the interest of public health, must be corrected, and I would urge you who are so directly concerned in the matter to leave no stone unturned in your endeavours to put an end to what is undoubtedly one of the most serious obstacles to sanitary progress. If when county councils came into existence they had been entrusted with the same powers in this direction which the Local Government Board possesses I have no hesitation in saying, at any rate so far as my own county is concerned, that the state of affairs to which I have called your attention to-day would years ago have been corrected.

MISCONCEPTIONS REGARDING ARTERIAL ELASTICITY.[1]

BY G. A. GIBSON, M.D., D.Sc., F.R.C.P.EDIN.,
ASSISTANT PHYSICIAN TO THE ROYAL INFIRMARY, EDINBURGH.

A PROPER grasp of physical principles is an indispensable preliminary to the study of the complex problems of physiology and pathology, and this is impossible unless the terms in use be correctly employed. Laxity in the use of these terms is common enough and leads to many misunderstandings; but this want of exactitude is venial when contrasted with the flagrant abuse which has sometimes to be deplored. Whether arising from ignorance or carelessness the misuse of scientific terminology is greatly to be regretted, and the aim of this paper is to bring forward a startling example of such misconceptions as are apt to have their origin in the one or the other. The instance to be cited is connected with elasticity, than which no property of matter is more commonly misunderstood. Before approaching the immediate subject of this paper, which may be said to be a kind of object lesson, it is necessary to consider the exact meaning of the term elasticity. In order to have clear and definite notions upon which to proceed the definitions of the great writers on physics must be consulted, and as the fountain-head of knowledge in this department Lord Kelvin and Professor Tait may with confidence be selected. "Elasticity of matter," says Lord Kelvin,[2] "is that property in virtue of which a body requires force to change its bulk or shape and requires a continued application of the force to maintain the change, and springs back when the force is removed, and if left at rest without the force does not remain at rest except in its previous bulk and shape." "Elasticity, in the correct use of the term, implies that property in a body in virtue of which it recovers, or tends to recover, from a deformation." Such is the definition of Professor Tait,[3] who in another part of the same work from which this quotation has been made says further: "A substance is said to be elastic when, on being left free, it recovers wholly or partially from a deformation."[4] Elasticity, therefore, is the property by means of which a body that has been distorted by any force returns to its original bulk and shape on the removal of that force. This conception necessarily involves several considerations: (1) there must be a force or stress to produce distortion or strain; (2) there must be resistance to the stress which causes the strain; (3) the stress must be continuously maintained in order to keep up permanent strain; (4) there must be a return more or less to the original bulk and form on the removal of the stress; (5) as long as the stress is sustained there must be an opposite or counter-stress, often termed the restitution pressure; and (6) in a perfectly elastic body, supposing such to be conceivable, the restitution pressure does not lessen with time.

The relation of the distorting force or stress to the amount of distortion or strain was considered by Hooke,[5] and his celebrated law, "Ut tensio sic vis," is commonly translated into every-day language by the statement, as given by Professor Tait,[6] "Strain is proportional to stress." We may attempt to express this idea in exact terms. If P be the measure of any stress and p that of the corresponding strain, then $P = Kp$ where K depends on the nature of the body. K is greater when the strain is smaller for any given stress, and it therefore is a measure of the resistance of the substance to the particular kind of stress denoted by P. The co-efficient of resistance is equal to the reciprocal of the co-efficient of distortability. If K = resistance and p = strain, then $K = \frac{1}{p}$ and $p = \frac{1}{K}$. This serves as a measure of resistance to change of bulk or form, but it affords no real assistance in estimating elasticity, and it is only possible to gauge the limits of elasticity of any body by the amount of strain from which it can perfectly recover. Such is obviously the meaning of the two writers from whom the definitions already quoted have been obtained, and the conception is rendered more precise by some examples given by Lord Kelvin, which may now be referred to. "The limits of elasticity of metals, stones, crystals, woods, are so narrow that the distance between any two neighbouring points of the substance never alters by more than a small proportion of its own amount without the substance either breaking or experiencing a permanent set, and therefore the angle between two lines meeting in any point of the substance and passing always through the same matter is never altered by more than a small fraction of the radian before the body either breaks or takes a permanent set."[7]

As a contrast to the behaviour of such substances he gives the following example: "On the other hand, gelatinous substances, such as indiarubber and elastic jellies, have very wide limits of elasticity. A vulcanised indiarubber band, for instance, is capable of being stretched again and again to eight times its length, and returning always to nearly its previous condition when the stress is removed. A shape of transparent jelly presents a beautiful instance of great degrees of distortion with seemingly very perfect elasticity."[8] The conclusion to which such facts lead is that it is impossible to measure elasticity by means of resistance. A substance may have very small limits of resistance to stress and yet be possessed of wide limits of elasticity. This is the true conception, equally removed from the two common misconceptions, firstly, that elasticity means resistance, and, secondly, that it is equivalent to distortability. Elasticity can only be estimated by the amount of recovery from distortion, and the greater the distortion from which a body can recover the greater is the elasticity of the body.

Upon elasticity depend many of the physiological functions of the body, more especially in connexion with the circulatory organs. The arteries are highly endowed with this quality. Arterial elasticity is the property by means of which the energy of the heart is stored up. With every pulsation of the heart there is a corresponding increase of blood pressure and arterial potential which, during cardiac diastole, rhythmically becomes kinetic. Blood pressure and arterial tension may therefore be regarded as reciprocal. One point connected with this subject has not perhaps, from the physiological point of view, received the attention which it has deserved. When the arterial wall has been distended by the heart beat and the distending force or pressure has been removed, the artery regains its original form; but during the process of restitution the kinetic energy of the vessel causes it to pass rapidly through its mean form, so that it suffers an alteration in the opposite direction—that is, it becomes smaller than its mean. But, again, a restitution pressure is developed, and the wall returns again through its mean position. This is repeated and vibrations are produced as a result of elasticity. In the aorta, when the swift flow of the blood suddenly stops, a negative, or perhaps more correctly a less degree of positive, pressure makes its appearance in the vessel in consequence of the inertia of the blood, and at the same time the restitution pressure in the wall of the aorta causes it to become smaller. The shrinkage is carried beyond the mean size of the aorta, but again the restitution pressure comes into play, the vessel expands and aids the negative pressure in drawing back towards the heart the column of

[1] A paper read before the Edinburgh Pathological Club, July 15th, 1896.
[2] Kelvin: Encyclopædia Britannica, ninth edition. Edinburgh, 1877, vol. vii., p. 796.
[3] Tait: Properties of Matter, p. 32. Edinburgh, 1885.
[4] Op. cit., p. 142.
[5] Hooke: Lectures de Potentiâ Restitutivâ, or of Spring, London, 1678. p. 1.
[6] Tait: Op. cit., p. 195.
[7] Kelvin: Op. cit., p. 800.
[8] Op. cit., p. 801.

blood. Successive movements of this kind go on until the wall attains its mean position.

As is well known, soft animal tissues do not behave like inorganic substances in respect of elasticity, and Hooke's law is by no means so applicable to them as to inorganic substances. The distortability of animal tissues gradually diminishes in proportion to the stress. Werthheim [9] showed that the curve of distortability, constructed by taking the weights employed to lengthen a piece of tissue as the abscissa and the elongations as the ordinates, is concave towards the abscissa line, whereas with a metal wire the curve is practically straight. This has been abundantly proved by Professor Roy [10] with regard to the arteries, and further, as Professor Tigerstedt [11] puts it, the elastic coefficient of the arteries is not constant but varies with the pressure.

About fourteen years ago Professor Roy conducted a most interesting series of experiments, already referred to, upon the elastic properties of the arterial wall. Some of the results which he obtained are not immediately connected with the subject of this communication, but as they throw a flood of light upon the bearings of organic to inorganic elasticity they are all worthy of the fullest attention. In his researches upon the thermo-elastic properties of animal tissues he found that these differ entirely from those of most inorganic substances. When a metal is compressed it becomes warmer, and when it is stretched it become colder; every animal tissue gives opposite results. His experiments were performed with the thermopile and galvanometer, and he found that the temperature of all animal tissues rises on stretching and falls again when they are relaxed. The production of restitution pressure is therefore accompanied by the generation of heat. The variation of temperature increased directly with the weights employed. Conversely, he has also proved that when heat is applied animal substances contract and that when they are allowed to cool they again expand. Animal tissues, therefore, are like bismuth, exceptions to the general rule that heat causes expansion and cold contraction, and they therefore resemble caoutchouc. These results have not such direct bearing upon the matter to be more especially discussed, but inasmuch as they are of vital importance in observing certain differences between the elastic properties of animal tissues and inorganic substances they cannot well be passed over. As regards the relation between internal pressure and the cubic capacity of the arteries Professor Roy investigated the degree in which a portion of artery expands with each successive increase in the internal pressure. The method employed was to enclose a portion of artery, so arranged that it could be distended by any internal pressure, in a small vessel containing olive oil, the variation of whose contents were recorded. The intra-arterial pressure was raised by increments of 10 mmHg until a pressure of from 100 to 200 mmHg was attained. The increments of capacity increase in proportion to the increments of arterial pressure until a certain point is reached, after which they diminish, and the most interesting result is that the arterial walls are most distensible at pressures corresponding more or less exactly to their normal blood pressure. Investigations upon veins show a very different relation between internal pressure and cubic capacity, inasmuch as the maximum distensibility occurs with pressures immediately above zero. Zwaardemaker [12] found that with regard to the arteries the results of Professor Roy's researches were in close accord with the conclusions to which he was led by a series of investigations made by himself.

Another interesting point ascertained by investigating the amount of stretching is that, in the case of transverse strips of the aorta, the removal of the intima and adventitia produces almost no change, and the resistance and curve obtained with the media alone is practically the same as that obtained before the removal of the intima and adventitia. With longitudinal strips of the aorta the case is entirely different, and in these the removal of the intima as well as of the adventitia produces marked changes. Such are the facts in young healthy subjects. In the case, however, of persons of advanced age the resistance of the different layers of the aorta undergoes a considerable change, which is of pathological interest as bearing upon the rupture of vessels and the production of aneurysm. In such elderly persons the removal of the intima does not leave the resistance of transverse strips uncharged, but the curve falls more rapidly than before, especially the light weights. The removal of the adventitia also has considerable influence.

The influence of age on the elastic properties of the arteries is very great. The ratio of expansion in youth and early adult life—i.e., to the age of from twenty to thirty—is practically the same, but it is very different in the case of advanced age. Here the amount of expansion to pressure is greatly reduced. The effect of disease upon the arteries was very fully investigated by Professor Roy, and in the case of dogs suffering from wasting fevers he found that the arteries were more distensible with lower intra-vascular pressures and that with increasing marasmus the point of maximum distensibility with unit variation of internal pressure is reached with lower pressures. He holds that the pathological change in the elasticity of the arteries consists in their remaining abnormally wide at zero pressure, their walls having received a permanent set, so that only a part of the curve given by normal arteries remains. With regard to man, he found that this pathological change in the elastic properties of the arteries is extremely common, being found in every case in which death was preceded by lingering disease, while in the case of those dying suddenly the curve was practically identical with that of the healthy animal. In all these experiments the extent of distortion, from which there was perfect restoration to previous form and bulk, has been correctly taken as a measure of the amount of elasticity. These facts have been for long a favourite subject of study with me, and it filled me with consternation to find in the most recent work on pathology which has appeared in the English language, the translation of Professor Thoma's "General Pathology and Pathological Anatomy" by Dr. Bruce, that these almost universally accepted facts appeared to me to be controverted. Without further preface let me quote the passage to which exception must be taken: "During life the diminution of the elasticity of the arteries shows itself by a soft distensile pulse and a sphygmographic tracing with a very high dicrotic rise, which is unduly far removed from the apex of the wave. The distance of the apex of the dicrotic rise from that of the pulse wave indicates in these conditions that the pulse wave is somewhat slowly propagated in the blood stream. At the same time, murmurs which are synchronous with the pulse are heard in the large arteries—the femoral, for example. This seems to be a consequence of the rapid change of the vascular tension which the high pulse wave produces. Arterial murmurs are thus of great importance for the pathology of the circulation. Lastly, I may point out that in many cases the appearance of a pulse in the retinal arteries on ophthalmoscopic examination is to be ascribed to a diminution of the elasticity of their wall. In all the above-mentioned cases, however, no severe general disturbance of the circulation usually appears. There is rather, as I have shown, a tendency to an alteration of the structure of the walls of the artery. In consequence of the greater tension to which the weakened walls of the arteries and veins are subjected by the blood stream their lumen dilates. Since, however, the amount of blood which flows through a section of an artery in a given time is determined chiefly by the condition of the capillaries, the widening of the arteries produces only a moderate increase in the amount of blood which flows through, so that at the same time the rapidity of the blood stream is reduced in the widened vessel. A retardation of the stream is produced, and this, as I have been able to show, is the immediate cause of a new formation of connective tissue in the intima of the widened artery. This, again, diminishes the lumen of the artery, and the latter is thus readapted to the blood stream. The new formation of the connective tissue in the intima renders the vessel more firm, so that it appears more rigid and less yielding (arterio-sclerosis, phlebo-sclerosis, angio-sclerosis). The elasticity of the wall of the vessel, and therefore the resistance which it offers to stretching, is considerably increased, often to such an extent that the pulsatile movements within it are reduced. The pulsating blood stream of the artery now flows in a channel, the wall of which possesses more or less the properties of a rigid tube. This involves an increase of the resistance to the stream which must not be undervalued. The heart is at first able to overcome this by strengthening its contraction. Gradually the thickness of the wall of the left ventricle becomes

[9] Werthheim: Annales de Chimie et Physiologie, xii., 1841, pp. 385, 581, and 610, and xxi., 1847, p. 385.
[10] Roy: Journal of Physiology, iii., 1881, p. 125.
[11] Tigerstedt: Lehrbuch der Physiologie des Kreislaufs, s. 318, 1893.
[12] Zwaardemaker: Nederlandsch Tijdschrift voor Geneeskunde, II. R., xxiv. B., 61 S., 1888.

considerably increased, but the increased activity required of the heart exposes it to the danger of insufficiency of its action. This in many cases leads to a fatal termination."

In the passage just quoted there are many contradictory statements which seem to indicate some deplorable misconceptions, and lest it might be thought that my friend and colleague, Dr. Bruce, is in any degree responsible for the singular confusion of ideas pervading the passage, it is only right to say that his translation has been executed with a fidelity worthy of a better cause. "During life," says Professor Thoma, "the diminution of the elasticity of the arteries shows itself by a soft, distensile pulse and a sphygmographic tracing with a very high dicrotic rise, which is unduly far removed from the apex of the wave. The distance of the apex of the dicrotic rise from that of the pulse wave indicates in these conditions that the pulse wave is somewhat slowly propagated in the blood stream." Such a statement as this deserves the closest examination. It seems as if the author judged elasticity, not by the amount of strain which can be borne and restitution pressure produced, but solely by the amount of resistance to stress. As we have already seen, Professor Roy and other workers in this field correctly measure elasticity by the amount of distortion which can be undergone, followed by return to normal form; and how a soft, distensile pulse and a sphygmographic tracing with a very high dicrotic rise can be produced by a diminution of the elasticity of the arteries entirely passes my comprehension. Again, let us hear Professor Thoma. "Lastly," he says, "I may point out that in many cases the appearance of a pulse in the retinal arteries on ophthalmoscopic examination is to be ascribed to a diminution of the elasticity of their wall." Here the author is on safer ground, but he happens to have crossed to the other side of the hedge from that on which he stood when we compare the first passage referred to with that just quoted. The appearance of a pulse in the retinal arteries shows that the arterial system is either somewhat like a system of rigid tubes with an intermittent flow, or it exemplifies the point made out by Roy, previously referred to, that the arterial system is too wide for the quantity of blood.

But these are minor degrees of misconception when compared with an astounding statement which follows. "In consequence," the author states, "of the great distension to which the weakened walls of the arteries and veins are subjected by the blood-stream their lumen dilates. Since, however, the amount of blood which flows from a section of an artery in a given time is determined chiefly by the condition of the capillaries, the widening of the arteries only produces a moderate increase in the amount of blood which flows through, so that at the same time the rapidity of the blood-stream is reduced in the widened vessel. A retardation of the stream is produced, and this, as I have been able to show, is the immediate cause of a new formation of connective tissue in the intima of the widened artery. This again diminishes the lumen of the artery, and the latter is thus re-adapted to the blood stream. The new formation of the connective tissue in the intima renders the vessel more firm, so that it appears more rigid and less yielding. The elasticity of the wall of the vessel, and therefore the resistance which it offers to stretching, is considerably increased, often to such an extent that the pulsatile movements within it are reduced." The perusal of this amazing statement must leave the reader in a condition little less than pitiable. He will infallibly be left in doubt whether the author or himself has been deprived of the faculty of reason. Professor Thoma assuredly "walketh in a vain show." How, in the name of everything that is reasonable, can the elasticity of the wall of the vessel be increased by a new formation of connective tissue rendering the vessel at once more rigid and less yielding?

In what has been said it has been my endeavour to keep well within the limits of a just and even generous judgment. My own tendencies are at all times more appreciative than critical, yet, while fully recognising the great services to circulatory pathology rendered by Professor Thoma, it seems my bounden duty to point out what is certainly a grave misconception of physical facts as well as an unfortunate misuse of physical terms. The passage which has been arraigned forms a curious commentary upon a sentence in the author's preface. "Since the beginning of my career," Professor Thoma says, "I have endeavoured to investigate the mechanical laws which govern pathological processes, and accordingly have spent much time in the preliminary study of mechanics and mathematics." It is indeed difficult to reconcile this autobiographical statement with the results specially referred to. In the preceding criticism there has been no intention on my part to scoff at the unfortunate blunders which have been criticised. "A smile for a friend and a sneer for the world"—the motto assumed for the youthful hero of romance by a gifted author[13]—may be a useful rule in the field of politics, but it has no place in science, for in all our discussions and controversies our sole aim is to arrive at the truth.

Edinburgh.

PRELIMINARY NOTE ON THE USE OF THE AGGLUTINATIVE ACTION OF HUMAN SERUM FOR THE DIAGNOSIS OF ENTERIC FEVER.

BY ALBERT S. GRÜNBAUM, M.A., M.B. CANTAB., M.R.C.P. LOND.,

FROM THE HYGIENIC INSTITUTE, VIENNA.

IF a drop of an emulsion of a motile pathogenic organism be mixed with a drop of the serum of an animal immunised against this particular bacillus the micro-organisms collect together in "clumps" and lose their mobility. The importance of this reaction, which had been seen by others, was first recognised and studied by Gruber and Durham. They threw out the suggestion that it might be made of diagnostic value in the sense that bacteria cultivated from the stools of cholera or typhoid fever patients might be identified by its aid. But it appeared likely on *a priori* grounds that the "agglutinines" found in the serum of immunised animals would also be formed in the human body during an attack of enteric fever or cholera (it being already known that "protective" substances, at any rate, are so formed); and at Professor Gruber's suggestion I undertook the investigation of this point as part of the question whether immunity and protection are not (in certain diseases) dependent on and proportional to the agglutinines present. The serum of normal guinea-pigs has rarely any pronounced agglutinative action, but it does not follow that the same would hold good for man, and an examination of some thirty cases of normal and diseased individuals, of whom more details are given below, showed the presence of agglutinines in persons not suffering and not having suffered from enteric fever (or cholera). Although anticipating matters, it may be here stated that hitherto *it is only in cases of enteric fever that the serum shows a distinct agglutinative action within thirty minutes when diluted sixteen times*, and hence this reaction can be used as a diagnostic sign. If the reaction occur in still greater dilution its diagnostic value is correspondingly increased. Enteric fever is fortunately rare in Vienna, so that this positive result was obtained in only eight cases, but the negative result in all the others seems sufficient to justify its publication in order that it may receive its corroboration or otherwise from other observers.

Practically, the method pursued is as follows. A drop of blood is taken either from the ear or the finger in an U-shaped capillary tube and centrifugalised. The tube is broken off at the junction of serum and corpuscles and the drop of serum blown out on to a glass slide. The necessary quantity is sucked up to the first mark on a straight capillary tube having another mark corresponding to sixteen times the volume at the first mark. Bouillon is then sucked up with the serum until the second mark is reached, the whole blown out on to a glass slide, mixed and again sucked up, and the process repeated two or three times to ensure thorough mixing. The emulsion of typhoid fever bacilli is prepared by taking a small platinum loopful of a culture not more than twenty-four hours old and grown on rather dry agar, and carefully rubbing it up against the side of a glass capsule containing 1 cm.^{3} of bouillon, with a drop of the bouillon, and subsequently mixing it with the whole quantity. A control preparation of this must be examined under the microscope to make certain that there are no, or very few, pre-existent clumps in the emulsion. A small drop of the diluted serum is then placed on a cover-glass, a drop as near as possible of the same size from the "typhoid emulsion" mixed with it, the cover-glass placed on a vaselined hollow slide, and the mixture examined as a hanging

[13] Lord Beaconsfield: Vivian Grey, Book ii., Chap. iii.

drop, with an immersion lens. Under the microscope it will be seen that the bacilli gradually form groups of three or four, which, by the addition of other bacilli, constantly increase in size until the majority are in "clumps" with impaired or lost motility. If the reaction is marked within thirty minutes the case is one of enteric fever, but without greater experience it is impossible to say that the absence of the reaction negatives such a diagnosis. In any negative result more than one examination should always be made, for it occasionally, although rarely, occurs, probably from experimental errors, such as varying quality of bouillon, &c., that the reaction is seen on one day and not on another. And it has happened in one case, in which the typhoid fever bacilli were cultivated from the blood, that the reaction was better marked in greater dilution. Complicated as the reaction may read it is really quite simple of performance and takes very little time.

The serum of man is very variable both as regards the power and the kind of agglutinines present under ordinary conditions. Excluding the cases of enteric fever, 32 specimens of serum were examined, of which 9 were from normal individuals (3 of whom, however, had had enteric fever) and 23 from cases of various diseases. Typhoid fever bacillus was acted on in 28 cases out of 37, in 13 markedly; 5 cases had had enteric fever from five to thirty-seven years previously and 8 were suffering from it. Cholera bacillus was acted on in 16 cases out of 29, in 9 markedly. Only 1 patient had previously had cholera. Coli bacillus was acted on in all 3 cases examined. In 2 of these 3 typhoid fever bacillus was also acted on. In the following table these results are better seen:

Disease.	Previous typhoid.	Action. Typhoid.	Cholera.	Coli.
Chronic rheumatism ...	*	†	‡	—
Phthisis (acute)	*	—	*	—
Cirrhosis, icterus	*	†	‡	‡
Phthisis	*	—	*	—
Meningitis	? 4 years ago.	†	†	—
Typhoid (27th day)	—	‡ ($\frac{1}{50}$)	‡	‡
Typhoid (17th day)	—	‡	—	—
Phthisis	*	*	‡	‡
Bronchitis	*	†	‡	—
Typhoid (11th day)	—	‡ ($\frac{1}{500}$)	‡	—
Icterus	*	‡	‡	—
Normal	*	*	*	—
Normal (placental blood) ...	5 years ago.	†	*	—
Normal ,, ,, ...	*	†	†	—
Normal ,, ,, ...	*	*	*	—
Hemiplegia	30 years ago.	‡ ($\frac{1}{50}$)	‡	—
Normal	37 years ago.	‡ ($\frac{1}{50}$)	*	—
Icterus	*	‡	‡	—
Tetany	*	†	†	—
Carcinoma	*	*	*	—
Gastric ulcer	*	‡	—	—
Septicæmia	*	†	†	—
Chronic renal	*	‡ ($\frac{1}{50}$)	*	—
Carcinoma icterus	*	‡ ($\frac{1}{50}$)	*	—
Syringomyelia	18 years ago.	‡ ($\frac{1}{50}$)	*	—
Normal (maternal blood) ...	*	*	*	—
Cirrhosis icterus	—	‡ ($\frac{1}{50}$)	*	—
Normal (placental blood) ...	10 years ago.	‡	*	—
Normal (maternal blood) ...	*	‡ ($\frac{1}{50}$)	‡ ($\frac{1}{50}$)	—
Normal (placental blood ...	*	*	†	—
Normal (maternal blood) ...	*	‡ ($\frac{1}{50}$)	—	—
Normal (placental blood) ...	*	*	—	—
Normal (maternal blood) ...	*	‡ ($\frac{1}{50}$)	—	—
Normal (placental blood) ...	*	—	—	—
Typhoid (10th day)	—	‡ ($\frac{1}{50}$)	—	—
Typhoid (13th day)	—	‡ ($\frac{1}{50}$)	—	—
Typhoid (21st day)	—	‡ ($\frac{1}{50}$)	—	—
Typhoid (26th day)	—	‡ ($\frac{1}{50}$)	—	—
Typhoid (33rd day)	—	‡ ($\frac{1}{500}$)	—	—
Chronic rheumatism	*	*	—	—

EXPLANATION OF SIGNS.—* = no action. † = fair or distinct action. ‡ = marked action. The fractions indicate the greatest dilution in which the action was still distinct. Actually the dilution is double, through an equal quantity of emulsion being added.

The greater strength of the serum of enteric fever patients is thus very evident. Several specimens from each patient were examined, and although the power gradually diminished it was always still considerable when the patient was discharged. The cases in which jaundice is present yield a serum which, undiluted, has an action often as rapid and complete as an enteric serum; but the falling off in strength is quite out of proportion to the dilution, so that it is impossible to tell what degree of dilution a serum will stand from the initial intensity of its action. Moreover, jaundice is almost unknown in enteric fever.

Although no opportunity presented itself for examining a case of acute miliary tuberculosis, the case of fairly extensive phthisis with high fever gave no reaction, and the case of meningitis only a slight reaction, so that these two diseases for which enteric fever is liable to be mistaken do not, *per se*, seem likely to cause confusion in the serum test. It is interesting to note the different action of the maternal blood[1] (obtained after separation of the placenta) and of the placental blood, especially in view of the general absence of hereditary immunity to infectious diseases. By the examination of a larger number of ordinary cases as well as of cases of enterica, at this season gradually becoming more numerous, I hope soon to present further evidence in support of the above test; in the meanwhile I commend it to the favour of others who may have the opportunity of applying it, especially in early cases.

Whilst this work was in progress a short communication by Widal applying a similar method macroscopically has been published in the *Semaine Médicale*. It requires, however, a larger quantity of blood and a longer time, and apparently, from the rather meagre description, a final resort to the microscope; and in one case, at any rate, I was unable to detect the reaction.

Vienna.

ON THE

ASSOCIATION OF SEROUS HÆMORRHAGES WITH CONDITIONS OF DEFECTIVE BLOOD-COAGULABILITY.

BY A. E. WRIGHT, M.D. DUB.,
PROFESSOR OF PATHOLOGY, ARMY MEDICAL SCHOOL, NETLEY.

IN previous papers I have pointed out that, on the one hand, excessive hæmorrhages from trifling wounds, and, on the other hand "spontaneous hæmorrhages," are in almost all cases attributable to a defect in blood-coagulability. The epistaxis and hæmorrhage from the bowel in typhoid fever, the epistaxis of growing children, and the excessive hæmorrhages of hæmophilic patients are typical instances of hæmorrhages which are due to this cause. Conditions of deficient blood-coagulability do not, however, manifest themselves only in a tendency to "actual hæmorrhages." They manifest themselves also in a tendency to increased transudation of plasma through the capillary wall—i.e., in a tendency to "serous hæmorrhages." I propose here to review the more important varieties of such "serous hæmorrhage" and to draw attention to the association of each of these forms of serous hæmorrhage with conditions of diminished blood-coagulability.

Serous hæmorrhage in the skin.—I have elsewhere[1] shown that urticaria or serous hæmorrhage into the skin is often associated with, and is probably dependent upon, a condition of defective blood-coagulability. In particular I have pointed out that this holds true (*a*) of the urticarias which supervene upon the injection of diphtheria antitoxin; (*b*) of the urticarias which supervene upon eating acid fruit; and (*c*) in all probability also of the urticarias which supervene after eating crabs or shellfish.[2] Two other urticarias—i.e., the urticarias which supervene occasionally after eating rhubarb and the urticaria which supervenes, more exceptionally, after the administration of soap enemas—

[1] THE LANCET, Jan. 18th, 1896; British Journal of Dermatology, No. 89, vol. viii.

[2] Since writing the above this inference has been confirmed by observations made by Dr. Wm. John Scott on a case of shell-fish urticaria, which was successfully treated by him with calcium chloride.

are also almost certainly referable to a condition of diminished blood-coagulability, depending upon an abstraction of lime salts from the blood. This abstraction of lime salts occurs in the first case under the influence of the oxalates of the rhubarb, and in the second case under the influence of the fatty acids of the soaps. To this list of urticarias, which are almost certainly referable to defects of blood-coagulability, we may probably also add the urticarias which occur not infrequently in hæmophilic patients. Several instances of these urticarias have come under my observation. In connexion with the general question of the etiology of urticaria it may be well to point out that serous hæmorrhage under the skin, like every other variety of serous hæmorrhage, may be due either (*a*) entirely to a condition of diminished blood-coagulability or more commonly (*b*) to a combination of causes—i.e., to a local injury superadded to a condition of diminished blood-coagulability. As an instance of an urticaria which is referable to this combination of causes I may instance the local urticaria which so frequently manifests itself at the site of injection after the administration of antitoxic serum. I have recently had instructive experience of such an urticaria in my own person, having suffered from a severe local urticaria after an inoculation of 1 c.c. of tetanus antitoxin. This urticaria, which had been very troublesome for three days, disappeared in two or three hours under the influence of one 30 grain (2 gramme) dose of calcium chloride. The disappearance of this urticaria was coincident with an increase of blood coagulability[3] from five minutes (to which it had declined under the influence of the antitoxin) to its normal of three minutes. It may, therefore, be reasonably inferred that this urticaria was not attributable only to the local injury which resulted from the injection, but also in part to the state of diminished blood coagulability.

Serous hæmorrhage into the subcutaneous and muscular tissues.—The best example of this variety of serous hæmorrhage is found in the serous hæmatomata which are so commonly seen in cases of hæmophilia. These serous hæmatomata may be distinguished from subcutaneous blood effusions by the fact that they leave a very trifling amount of discolouration behind. Other instances of œdemas which are referable to a condition of diminished blood-coagulability are the widespread œdemas which occur after the inoculation of viperine poison,[4] and in all probability also the œdema of the feet which occurs in patients whose blood-coagulability has been seriously reduced by prolonged tropical fevers. Again, it would be well worth investigating whether chilblains are or are not dependent upon a diminished blood-coagulability. The following facts speak in favour of an association between the two phenomena: (1) in a case of aggravated chilblains which has recently come under my notice (a case in which the puffiness and blueness of the hands persists even in summer) I find that there is a notable defect of blood-coagulability (blood coagulation-time seven and a half minutes instead of from two to four, or at most five, minutes); (2) I have noted the occurrence of aggravated chilblains in one of the families of "bleeders" I have under observation; (3) I have frequently noted the association of chilblains with a tendency to epistaxis and to urticaria; and (4) chilblains are in many respects comparable to a deep-seated urticaria. For instance, the itching that accompanies chilblains, like the itching that accompanies urticaria, is most troublesome in the evening and is aggravated by every change of temperature.

Serous hæmorrhage into the tubules of the kidney.—The association of so-called "cyclic albuminuria" with a tendency to epistaxis has been noted by Marie,[5] and is suggestive of a connexion between low blood-coagulability and albuminuria. The connexion between the two phenomena is suggested also by the fact that albuminuria occurs independently of any verifiable kidney disease in persons whose blood-coagulability has been reduced by tropical fevers. I have not as yet met with any albuminuria in "bleeders." I have, however, not as yet sufficiently examined for it.

Serous hæmorrhage into joints and serous cavities.—That effusions into joints may be dependent upon a defect of blood-coagulability is evident from the fact that next to actual hæmorrhages joint effusions constitute the most characteristic clinical manifestation of hæmophilia. Effusions into other serous membranes do not appear to have been specially noted in cases of hæmophilia. Probably, however, attention has not been directed to this point. In a case I have under observation symptoms which are suggestive of a serous hæmorrhage into the brain—i.e., stupor followed by "fits"—have several times occurred simultaneously with effusions into joints. Again, quite independently of hæmophilia, the possible dependence of serous effusions upon a defect of blood-coagulability is often suggested by the fact that pericardial and pleural effusion are often in the post-mortem room found associated with signs of hæmorrhages from mucous membranes, and with defective clotting of blood in the larger bloodvessels. The joint pains which occasionally supervene upon injections of antitoxic serum are also suggestive of a dependence of serous hæmorrhages into joints upon defects of blood-coagulability. For these joint-effusions, like the urticaria which they so frequently accompany, may be reasonably referred to the defect of diminution of blood-coagulability which, as I have pointed out, is frequently induced by the injections of antitoxin. In view of these facts it would be well worth investigating whether cases of hydrocele and pleural- and joint-effusions for which no other sufficient cause can be detected are, or are not, dependent upon defects of coagulability. In this connexion it would also be interesting to examine the condition of blood-coagulability in beri-beri.

Serous hæmorrhage into the intestinal canal.—In my experience hæmophilic patients very seldom suffer from constipation. Their bowels are usually free and there is often a history of frequently recurring diarrhœa. These diarrhœas seem to be coincident with periods of abnormally diminished blood-coagulability. For instance, in one of the "bleeder" boys I have under observation blood coagulation time stood at over twenty-five minutes at a time when he was suffering from a persistent attack of diarrhœa. This boy's blood had in previous observations been found to clot in periods varying between seven and ten minutes. It seems a probable inference from these facts that diarrhœa may be caused by serous hæmorrhage, depending upon a defect of blood-coagulability. The association of a defect of blood-coagulability with diarrhœa may also be inferred from Osler's observations on the frequent association of diarrhœa and vomiting with cases of morbus maculosus Werlhofii[6]—i.e., with a disease which is plainly associated with a serious defect of blood-coagulability. The same association of serous hæmorrhage into the bowel with serous hæmorrhage into the skin and deeper tissues may be noted in the case of the urticaria which results from eating crab or shell fish. Again, the occurrence of diarrhœa after croupous pneumonia at a time when peptone (albumose) is being excreted in the urine is also probably referable to a serous hæmorrhage into the bowel induced by a defect of blood-coagulability. This inference is based upon the fact that diarrhœa due to serous hæmorrhage is invariably seen in dogs whose blood-coagulability has been diminished by an injection of peptone (albumose).

In addition to the facts just adverted to, a series of pharmacological facts seem to point to the existence of a relation between the state of blood-coagulability and the condition of the stools. In the first place non-irritant hydragogue cathartics appear, if I may judge from a very few experiments made with magnesium sulphate and bitartrate of potash, to owe some part of their efficacy to their power of diminishing blood-coagulability. Again, the marked constipating power of lime salts (e.g., chalk and calcium chloride) may quite probably be due to a diminution of serous hæmorrhage into the intestine dependent upon an augmentation of blood-coagulability. In like manner the notoriously constipating effect of a milk diet may be in part due to the large percentage of calcium salts contained in cow's milk. This last inference is to some extent confirmed by the fact that obstinate infantile constipation will often (I speak, however, from a very small experience) disappear when the child is put upon a diet of citrated milk[7]

[3] These observations of coagulation-time were made at the standard temperature of 18·5° C. (half blood heat) with coagulation-tubes of the standard size, 0·25 millimetre internal diameter, obtained from Mr. A. E. Dean, jun., 73, Hatton-garden, E.C.

[4] Dr. C. J. Martin (Proceedings of the Royal Society of New South Wales, July, 1895; Journal of Physiology, vol. xv.) has shown that when viperine poison does not produce instantaneous vascular coagulation it produces an extreme diminution of blood-coagulability, which is quite comparable to the "negative phase" of coagulability obtained after an injection of Wooldridge's tissue fibrinogens.

[5] Semaine Médicale, January, 1896.

[6] Johns Hopkins Hospital Reports, vol. v.

[7] I have in a previous communication (THE LANCET, July 22nd, 1893) recommended this milk as very suitable for administration to infants and invalids (especially to typhoid fever patients) whose digestions are not strong enough to cope with the firm clots which are obtained from ordinary cow's milk.

(i.e., milk which has been deprived of its excess of lime salts by an addition of 1-400th of citrate of sodium). It will be obvious that the lines of thought which are opened up by the above series of facts are too numerous, and, in some instances, too far-reaching to be followed up within the compass of a paper like the present. The following up of these lines of thought will, however, present no difficulty to anyone who takes as his starting-point the generalisation that a defect of blood coagulability tends to manifest itself, not only in "actual hæmorrhages," but also (according to the particular idiosyncrasy of the patient) in some one or more of the forms of "serous hæmorrhage" which have been adverted to. As testimony to the truth of this generalisation we have the case of hæmophilia, where every one of these forms of serous hæmorrhage (with the as yet doubtful exception of albuminuria) comes under observation.

The bearing of this generalisation upon the question of treatment is obvious. Methods of treatment which augment blood-coagulability will be methods of treatment that will be appropriate, not only to the prevention and treatment of "actual hæmorrhage," but also to the prevention and treatment of "serous hæmorrhage." The more important of these therapeutical measures appear to be the following: (*a*) the exhibition of calcium chloride (or other soluble lime salt) in suitable quantities; (*b*) the avoidance of such vegetable acids as citric, malic, tartaric, and oxalic acids, which form insoluble salts with lime; (*c*) the concentration of the blood either by diaphoretics or by such purgatives as do not owe their efficacy to a power of reducing blood-coagulability; (*d*) the restriction of the amount of fluid ingested; (*e*) the increase of the amount of carbonic acid in the blood, either by direct inhalation of the gas or by other methods; and (*f*) the avoidance of alcohol. The object of this paper will have been obtained if it should lead to a trial of such of these therapeutic measures as may not already be in use, both in the treatment of actual hæmorrhage and also in the treatment of the various forms of serous hæmorrhage which have been enumerated. Even where, as probably in a large majority of cases, these clinical symptoms are dependent upon something more than a mere defect of blood-coagulability, an augmentation of coagulability may be expected to alleviate the clinical symptoms by limiting the transudation through the capillary wall.

As an example of what can be done in controlling serous hæmorrhage I may subjoin the following protocols of experiments, which show that the serous hæmorrhage, which is associated with the hypodermic inoculation of typhoid bacilli can be controlled by the exhibition of calcium chloride.[8]

Horse—Typhoid Vaccination.

Aug. 6th.—Receives a hypodermic injection of 20 c.c. of virulent typhoid culture. (This is the seventh injection to which the horse has been subjected.)

Aug. 7th.—Yesterday's injection, like all previous injections, has given rise to an enormous local œdema. The horse now receives 1 ounce (30 grammes) of calcium chloride in a bran mash.

Aug. 8th.—The œdema, which has on all previous occasions lasted for some considerable number of days, has practically disappeared, leaving behind two small, sharply circumscribed abscesses at the site of the inoculations.

Aug. 20th.—Horse receives a hypodermic injection of 50 cc. of the same virulent typhoid culture. He at the same time receives one ounce (30 grammes) of calcium chloride in a bran mash.

Aug. 21st.—No noticeable œdema. Only a slight fulness can be detected when the hand is passed over the site of the inoculation.

Aug. 22nd.—No further local symptoms whatever.

Sept. 7th.—50 cc. of virulent typhoid culture hypodermically on right side of the neck. No calcium chloride.

Sept. 8th.—Painful tense swelling (size of inverted soup-plate) at site of inoculation. Œdema of dependent parts of the neck. Pain on moving fore-leg.

Sept. 9th.—Swelling at seat of injection still very tense and painful. Œdematous swelling at lower part of the neck practically unaltered.

Sept. 11th.—The swelling at the seat of injection which has been threatening to suppurate appears now to be slowly resolving itself. The œdema has, if anything, a little increased. It has now passed down from the neck on to the front of the chest.

M. D., an Officer of the Indian Medical Service—Typhoid Vaccination.

July 31st.—Inoculated hypodermically in flank with one-twentieth of a tube of dead typhoid bacilli.

Aug. 1st.—Extensive œdema extending from site of inoculation to pubis and for four or five inches upwards over the front of the abdomen.

Aug. 4th.—Swelling and redness gradually disappearing.

From Aug. 4th to Aug. 11th.—Several 1 to 2 gramme doses of calcium chloride.

Aug. 14th.—3 P.M.: three-twentieths of a tube of more virulent typhoid bacilli inoculated into flank. 6 P.M.: a small amount of swelling has developed at seat of inoculation. 20 grains (1·25 grammes) of calcium chloride. 11 P.M.: swelling not noticeably increased. Another 10 grains (0·6 gramme) of calcium chloride.

Aug. 15th.—No increase in the œdema.

Aug. 16th.—All swelling and tenderness have disappeared.

Sept. 5th.—One-quarter of a tube of dead typhoid bacilli hypodermically. 45 grains (3 grammes) of calcium chloride by the mouth.

Sept. 6th.—No œdema whatever. Considerable redness and tenderness of skin disappearing towards evening.

Sept. 7th.—No further local symptoms.

J. S., an Officer of the Indian Medical Service—Typhoid Vaccination.

Aug. 19th.—12 noon: receives a hypodermic inoculation of one-twentieth of a tube of dead typhoid bacilli (culture the same as that employed in the second inoculation of M. D. above). Blood coagulation-time—7 min. 6 P.M.: considerable fulness has developed round site of inoculation. Blood coagulation-time—9 min. Receives 45 grains (3 grammes) of calcium chloride in half a tumbler of water. 8 P.M.: blood coagulation-time—5 min. 10 sec.: no increase of œdema.

Aug. 20th.—No trace of œdema, no further local symptoms, except a little redness and tenderness at site of inoculation.

These facts would appear to have an importance altogether beyond that which attaches to this particular vaccination process. They have, for instance, an obvious application in connexion with the prevention and treatment of the serous hæmorrhages, which are associated with Haffkine's anti-cholera inoculations. (I need hardly point out that these anti-cholera inoculations have served as a pattern for the typhoid vaccinations detailed above.) They have a further application in connexion with the treatment of insect bites and of the œdematous arms which are sometimes seen after small-pox vaccinations. And, lastly, a more general therapeutical importance accrues to these facts when we consider that œdematous conditions not only lower the resistance of the organism to bacterial infection, but they also, if we may judge from what occurs in the case of bad chilblains and in the case of the traumatic œdemas of the bleeders, sometimes lead on directly to suppuration and mortification. Possibly the favourable results which are said to be obtained by the exhibition of calcium chloride in the treatment of boils, of croupous pneumonia, and of some cases of phthisis with considerable expectoration, may be due to the fact that any drug which controls serous hæmorrhage will, by virtue of that property, exert a favourable influence also upon suppurative processes.

Netley.

[8] I would here again warn against injecting calcium chloride solutions hypodermically. I find that the injection of perfectly aseptic 10 per cent. solutions of calcium chloride is in animals followed by widespread sloughing of the subcutaneous tissues.

PREGNANCY COMPLICATED BY AN OVARIAN TUMOUR: RUPTURE OF THE CYST NINETEEN DAYS AFTER DELIVERY; RECOVERY.

BY A. C. BUTLER-SMYTHE, F.R.C.S. EDIN.,

SENIOR SURGEON TO THE GROSVENOR HOSPITAL FOR WOMEN; SENIOR SURGEON TO OUT-PATIENTS, SAMARITAN FREE HOSPITAL FOR WOMEN.

A WOMAN aged thirty-five years was first seen by me in July, 1895. She had been married fourteen years, had nine children, and had entered the fourth month of her tenth pregnancy. Her youngest child was two years old. She came for advice on account of pains in her abdomen and legs, particularly in the right leg. The pains she attributed to rheumatism. On examining the abdomen a small ovarian tumour was discovered on the right side about the size of a cocoanut and freely movable. A consultation was held and it was decided that no attempt should be made to remove the tumour as it would not interfere with the pregnancy. The patient came under my observation each week up to Aug. 12th. In September she was examined by Dr. C. Gould May and Mr. R. T. Nariman, who noted "that she remained well and that the tumour had not much increased in size." I saw her again on Oct. 2nd, when to all outward appearances she had begun her sixth month of pregnancy. The tumour caused her no trouble and she professed to be very comfortable. On Dec. 30th she was admitted into the Grosvenor Hospital for Women, having had some suspicious pains that day. On examination I found the head presenting, but she was not then in labour. On the morning of Jan. 2nd, 1896, I was sent for, and on arriving found a male infant just born, but not separated. The placenta came away easily and there was no hæmorrhage worth speaking of. The tumour could now be felt in the right iliac fossa, and was not much larger

than when first discovered six months before. Each succeeding day the abdomen was palpated, as I was anxious to know how soon the cyst would begin to increase in size. Judging from former cases, this would be almost immediately after the uterine pressure had been removed. At the end of the week she was examined by my colleague, Dr. C. Gould May, and myself, and the tumour seemed to be somewhat bigger. By the fourteenth day the lochia, which had been unusually slight, ceased, and on examining I found the tumour, now enlarged to the size of an infant's head, situated in front of the uterus. On the sixteenth day she sat up in an armchair for the first time. On the eighteenth day an examination was made, and finding that the tumour was increasing in size I decided to remove it at an early date. Two days later, on examining again, to my surprise the tumour could not be found, but to the right of the uterus I detected a long-shaped substance which felt to the touch exactly like a child's shrunken rubber balloon. It was then elicited from the patient "that when sitting up in her armchair reading on the previous day she had bent forward to stir the fire, and had suddenly felt a sharp burning pain in her abdomen, which continued with more or less severity for the rest of the day." To use her own words, "she suspected something had gone wrong in her inside, but never thought of drawing attention to the fact." I asked my colleague, Dr. J. W. Dickson, who was in the hospital, to examine the patient, and he corroborated my opinion. I again examined her on the following day in consultation with Dr. C. Gould May, but no trace of the tumour could be discovered. She left the hospital a few days later, rejoicing at her escape from an operation.

The cyst most probably was unilocular, and from its sudden enlargement and tenseness I should imagine that its pedicle must have become twisted and that the patient, suddenly leaning forward, burst the cyst, which, fortunately for her, contained clear fluid and no large vessels. The rupture must have occurred on the nineteenth day after delivery. It is remarkable that there was no rise of temperature or increase in the pulse rate, and with the exception of the "burning pain" previously mentioned no symptoms were observed either by the patient or her nurse. Judging by the size of the cyst, it must have contained at least two pints of fluid, and the sudden expulsion of so much liquid into the peritoneal cavity might well have caused alarming symptoms, if not collapse. Moreover, that the tumour should have escaped rupture both during the term of pregnancy, when the patient was attending to her already large family of young children and to her household duties, and also during the actual labour, is surprising, considering the manner in which it eventually occurred. Had the tumour remained in its original position—viz., in the right iliac region—instead of rotating into the median line in front of the enlarged uterus and between that organ and the pubis, it would probably have remained intact, necessitating an abdominal operation later on for its removal.

Brook-street, W.

CASE OF MULTIPLE SARCOMATA PRACTICALLY CONFINED TO THE SEROUS MEMBRANES IN A YOUNG ADULT; DEATH; NECROPSY.

BY W. G. WILLOUGHBY, M.D. LOND., M.R.C.S. ENG., &C.,

POLICE SURGEON, EASTBOURNE; LATE HOUSE PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

A MAN aged twenty-four years, a police constable of nearly four years' service, came to me early in July, 1894, with the following history. He had for about two or three weeks noticed that his abdomen was swelling, that his clothes seemed very tight, and that he had to stand with his shoulders thrown back to balance himself. There was no pain (simply discomfort), and he had nothing else to complain of. He had always been healthy, but in some riots about three years previously he had received a severe blow on the abdomen. He was then sick for a week or two but not off duty. He had had epistaxis occasionally since. With regard to the family history, the father and mother were both alive and well; he had many brothers and sisters who were all well; and there was no family history of cancer. On examination there were signs in the thoracic and abdominal regions only. In the thorax there was dulness at the base of the right lung behind, and loss of breath sounds; elsewhere was natural. There was general enlargement of the abdomen. There were signs of fluid, the wave from side to side being easily obtained. Tympanitic resonance here and there was found over irregular intervals of the abdomen. On the right there was dulness below the ribs for about two inches, then a small resonant area, and then dulness again. On the left there was a little resonance near the centre and dulness elsewhere due to fluid. On the right side of the middle line there were nodular masses occupying most of the area. These masses were separable one from another and floating. On the left the masses were fewer, but there was a large mass in the left iliac region. Beyond the discomfort there was no pain anywhere. There were no pressure symptoms or signs except ascites, no urinary trouble, and no constipation or diarrhœa. The legs were not swollen. Paracentesis was performed fifty-seven times: at first at intervals of one week and eventually almost daily. Towards the end of life the growths occupied such space that there was little room for fluid and the excessive distension was very painful. The amounts removed varied from seventeen to five pints at each operation. On one occasion a small portion of growth was found in the cannula and on examination it proved to be sarcomatous tissue. After about thirty operations the growths had so extended across the middle line that the remainder were carried out through the left linea semilunaris. In December the patient had severe pain over the region of the heart, and nodules appeared below the skin not connected to the thorax below: these increased until at death they were collectively of the size of an orange. The tension of the skin was very painful. The urine and temperature were normal throughout. At one time there was constipation, not due to pressure, but rather to lying in bed so long. The size of the growths steadily increased and the patient became gradually more and more wasted and died on Jan. 18th, 1895.

Necropsy.—The abdominal cavity was filled with numbers of rounded growths attached to the omentum, mesentery, and peritoneum everywhere. There were many thousands, varying in size from small seeds up to one large growth by the side of the gall-bladder about the size of a cocoa-nut. Every organ was coated with these growths on its peritoneal surface. There were a few small nodules in the liver; except for these the growths were confined to the serous membrane and did not extend into the organs. In the scar of one of the paracentesis operations was a secondary growth. In the thorax the pericardium and heart were free; there were secondary growths in the loose tissue over the ribs and above the heart; the pleuræ, especially the right, were studded with growths in their lower parts; there was slight invasion of the base of the right lung, but very little compared to the amount of growth in the pleuræ. The diaphragm was very thick with closely studded growths on each serous surface; the patient, however, had only had dyspnœa where the abdomen was much distended, and the dyspnœa was always relieved by paracentesis. Microscopically the nodules were found to consist of numbers of small round cells without much intercellular substance; the nodule in the scar contained, however, much fibroid intercellular substance. The growths were sarcomatous.

Remarks.—Among the interesting points in this case are:—1. The very nearly complete restriction of the growths to serous membranes. There were a few in the liver and one or two in the base of the right lung, but the vast majority were attached only to serous membranes, the result being that the abdominal organs were coated with the growths on their serous surface. 2. The non-interference of the growths with the action of the various organs and hence the absence of many symptoms, such as constipation, abnormality of urine, jaundice, &c., which might be expected in a general affection of the abdominal cavity. This was due to the situation of the growths—viz., on the organs and not in them. 3. Considering the serous membranes as the primary seat of the disease the situations of the secondary growths were interesting—viz., in the loose subcutaneous tissue over the heart region and in one of the paracentesis scars. 4. The etiology, especially in connexion with the popular idea that "cancer" originates from a blow. In this case a severe

blow was received on the abdomen while the man was on duty. The widow and children of a constable fatally injured whilst on duty are entitled to compensation and pension. The question as to whether this blow "caused" the cancer was debated, but as over three years had elapsed it was felt that even if a blow might be a "cause" of cancer occasionally, the two could not be connected in this case.

Eastbourne.

A CASE OF SYMMETRICAL GANGRENE OF THE LOWER LIMBS.

BY R. W. WINSTANLEY, M.R.C.S. ENG., L.R.C.P. EDIN., &c.

DURING an influenza epidemic such as we had in the early months of last year a general practitioner has little time to spare for elaborate note-taking, but the following case is so interesting in some of its features that I have thought it worthy of record.

A married woman aged fifty-seven years consulted me on Jan. 25th, 1895, for pain in the abdomen. On Aug. 25th, 1885, I delivered her of a stillborn child by turning. She made a good recovery and from that time till she consulted me she had enjoyed fairly good health except that she suffered occasionally from rheumatic pains in the legs. She has had three living children and three stillborn and ceased to menstruate at fifty-four years. The abdominal pain was situated a little to the left of the umbilicus, was continuous, of a dull, aching character, and directed downward to the groin and through to the back. The bowels being confined were opened by a simple enema. This gave slight, but only temporary, relief. A blood-coloured discharge from the genitals, like an ordinary menstrual period, pointed to uterine or ovarian congestion, and bromide of potassium and other sedatives were given, but without effect on the pain, although the discharge soon ceased. There was some deep tenderness on palpation, but nothing definite in the way of a swelling could be detected. Morphia gave temporary ease, but more lasting relief was obtained by keeping the bowels open by aperients such as cascara sagrada. Eventually, after some six weeks, the pain gradually abated and for a while the patient seemed to be quite well again. On March 21st, after nursing her daughter through an attack of influenza, she herself was seized with that complaint and had a typical attack lasting four or five days, with slight congestion at the base of one lung. About the end of the week the temperature was normal and she seemed on the road to recovery when she complained of a smarting pain in the genitals, which on examination was found to be caused by herpes of the labia majora. This yielded to quinine and local soothing applications, but left her very weak, and on this date she was seized with great pain extending down both legs to the feet, which were found to be cold, blue, and mottled, but not swollen. The pulse was 120, irregular and intermittent, and the temperature was normal. The next day the cyanosis was seen to be extending equally to the middle third of both legs, the toes being much darker, so that the case looked very like Raynaud's disease. The urine contained a considerable amount of albumin, and not having time to make a more elaborate examination myself I sent a specimen to the Clinical Research Association, and their report was as follows:—"Reaction strongly acid; specific gravity, 1020; colour, dark straw; albumin, considerable quantity; blood, *nil*; nor were the bands seen through the spectroscope; sugar, *nil*; urea, 2·76 per cent. A large deposit of urates was present; squamous epithelial cells were also abundant. There was no traces of either normal or broken-down blood corpuscles nor were there any casts or crystals. The urobilin band was seen very distinctly." The legs were extremely painful when touched, and, though quite cold, felt burning hot to the patient. The cyanosis increased and the toes became black and shrivelled. On April 7th the patient on being moved to another room—owing to the bursting of a water-bed on which she was lying—complained of pain in the abdomen, which was found to be decidedly swollen and tympanitic. This subsided again in a day or two, but bedsores now formed very rapidly on both buttocks, aphthæ appeared on the tongue and lips, and the patient got very low. The morphia given for the relief of pain was gradually increased; stimulants and nourishment being freely given the patient's strength somewhat revived. On the 12th the pain was rather less and from this time continued so with occasional exacerbations. The gangrene spreading up the legs reached the knees and large bullæ formed on the calves. The cyanosis at length extended to the inner side of the thighs and large sloughs formed on both buttocks. The patient gradually sank and died on May 8th.

Necropsy.—On post-mortem examination the body was found to be generally emaciated. In the thorax the lungs, heart, and large vessels were found to be quite healthy and normal. In the abdomen all the viscera appeared normal except the kidneys, which were both studded with small cysts on the outer borders and anterior surfaces. On exposing the abdominal aorta it was seen to be distended with clot for about two inches above the bifurcation into the common iliac arteries. The said clot extended down the left iliac into the femoral. There was no clot in the right common iliac artery. On opening the aorta and turning aside the clot a small patch of calcareous degeneration was found at the commencement of the left common iliac artery and close to the fork. Otherwise these arteries appeared healthy. I was successful in removing and preserving the lower end of the abdominal aorta with the common iliac arteries containing the clot, and the specimen may now be seen in the museum of University College Hospital.

As to the treatment, several drugs were tried for the relief of the pain, and thyroid extract was given for a short time, but without any apparent benefit. Hypodermic injections of morphia and atropine and solid opium internally seemed to give most relief. The family history is remarkable. The father is stated to have died, aged seventy years, from mortification of the feet. The mother had one leg amputated for white swelling of the knee-joint, and is also stated to have died from mortification of the other foot aged fifty-seven years. One brother had the right foot amputated for disease of bones of the foot following a blow from a cricket ball (probably strumous). Another brother, still living, suffered from Bright's disease two years ago, is now quite well, and is sixty-one years of age. There are two daughters living, aged thirty years and twenty-four years respectively. Both have enlarged veins in the lower limbs and both have suffered recently from phlebitis following influenza.

Haslemere, Surrey.

A CASE OF SARCOMA OF THE ORBIT; RECURRENCE FIFTEEN MONTHS AFTER REMOVAL.

BY F. H. KNAGGS, M.R.C.S. ENG., L.R.C.P. LOND.

CASES of sarcoma arising from the orbit itself are so infrequently met with in general practice that I venture to record the following.

On May 16th, 1894, a little girl aged two years and nine months was brought to me by Dr. Ernest Coward suffering from considerable protrusion of the left eyeball. The child had been very healthy, and nothing unusual in her appearance had been noticed till three weeks before, when her mother remarked that one eye appeared more prominent than the other; her father, however, would not acknowledge this till a week later, when Dr. Coward was asked to see the child, and he confirmed this rapid development of the disease, having seen the child previously when recently attending at the house. From this time the proptosis of the eyeball rapidly increased, though apparently without causing any inconvenience or distress to the child, who ate well, slept well, and, excepting this condition, appeared in robust health. There was no record of tumour in either the father's or mother's family and no history of injury. The child was well-nourished, bright, and cheerful. The temperature was normal, and had been so for the last fortnight. There was an absence of headache or vomiting. The left eyeball was proptosed, the cornea being on a level with the bridge of the nose, the hollow of the orbit was obliterated, the eyeball displaced downwards, forwards, and inwards; its movements were good internally, slight upward and downward,

and none externally beyond the middle line. The lids did not cover the cornea when closed; there was no œdema or chemosis, the pupils were equal and reacted to light and accommodation, sight was good, she being able to distinguish between a pin and a needle with the affected eye. Ophthalmoscopic examination revealed only slight haziness of the lower margin of the optic disc, the remainder of the disc and retina being healthy. Palpation showed no increase in the tension of the eyeball but that the globe could not be pushed back into the orbit, it apparently impinging upon some firm unyielding substance behind. The brim of the orbit was free from any swelling, and between it and the globe no substance could be felt except in the situation of the lacrymal gland, which was pushed forward, but no undue hardness or enlargement was felt. The punctum and lacrymal ducts were normal. No pulsation was present, but a feeble systolic murmur was heard over both lids. The nose and throat were found to be free from disease and the hearing was good in both ears. A week later (May 29th) the proptosis was much increased, the cornea becoming steamy; œdema of the conjunctiva commencing, and pain of a severe nature coming on, induced the parents to consent to an operation. Having removed the eyeball in the usual way under an anæsthetic I came down upon a considerable sized tumour enclosed in a thick capsule lying deep in the orbit. Incising the capsule enabled me to pass a strong pair of curved excision scissors easily round the growth, which was found attached to the apex of the orbit. Severing this, the tumour was easily lifted out; the attachment was seized and cut closely away from the apex. There was free hæmorrhage, which was easily controlled by pressure. Having thoroughly washed out the cavity with sublimate lotion it was then packed with iodoform gauze and a thick pad of Gamgee bound on. The case went on very well, the temperature never rising above 99° F., and she was running about again in three weeks. I saw the patient in May, 1895, a year after the operation. There was then no sign of recurrence, and the little girl was in the best of health and spirits. In July, 1895, fifteen months after the operation, a small hard nodule the size of a pea and attached to the upper and inner wall of the orbit was first detected. The parents refused further operative measures. The growth rapidly extended, in two months being outside the orbit, and before death, which occurred in February 1896, was a large conical mass protruding from the orbit, its apex being three inches in advance of the bridge of the nose. Right sided paralysis, convulsions, and coma preceded the end. The tumour removed was as large as a good sized walnut in its shell, entire on removal, and its attachment was simple connective tissue. A section of the tumour was made for me at Guy's Hospital, and the growth was found to be a large round-celled sarcoma. The eyeball was carefully examined and was found to be free from disease. I did not use the chloride of zinc paste after removal seeing that the tumour was so completely isolated.

Remarks.—The extreme rapidity of growth combined with the youth of my patient was strongly in favour of the tumour turning out to be malignant. That the growth was limited to the orbit seemed probable from the absence of disease in the nose, throat, antrum, mouth, and lacrymal ducts, and from the absence of œdema and chemosis of the conjunctiva in the earlier stages, suggesting that the growth had not come into the orbit by the cavernous sinus. It seems probable that the tumour arose from the connective tissue of the orbit. The periosteal origin so common in these cases is, I think, disproved by the non-recurrence so long after removal of the growth, when it is remembered that the site of removal was not treated by escharotics.

Huddersfield.

NEW SEWAGE WORKS AT NEWPORT, ISLE OF WIGHT.—On Sept. 2nd the Mayor of Newport (Mr. F. T. Mew) inaugurated the new sewage disposal works for the borough, which have been constructed at a total cost of £10,000. A new collecting sewer picks up the various old outfalls and conveys the sewage to the works, where it is treated with lime and ferric sulphate of alumina. The machinery includes sludge pumps and presses, mixing vats and wells, and steam power is employed. The three settling tanks are each calculated to hold 66,000 gallons. The collecting sewer in one place goes under the river by means of an inverted syphon—two 16 in. iron pipes. Six storm-water overflows into the river are provided. Mr. Baldwin Latham was the engineer of the works.

THREE CASES OF PHLEGMASIA DOLENS.

BY FRANK BRAINE ROCKSTRO, M.R.C.S. ENG., L.R.C.P. LOND.

THREE cases of phlegmasia dolens occurring in the virgin having been reported in THE LANCET at the end of last year,[1] which have attracted considerable attention on account of the rarity of the condition under such circumstances, the following notes of three cases may also be of interest.

CASE 1.—A girl aged eighteen years had been suffering from ordinary chlorosis with its usual concomitants for some time, and had had amenorrhœa for three months. The present illness began on Nov. 5th, 1893, when the patient was at church; she felt faint and was obliged to be brought home, but by the following day she had recovered sufficiently to be able to work as usual. On the 7th, however, she was so giddy and faint that she was forced to abandon her duties and return to her home. She stayed in the house and did nothing for several days with no other indisposition beyond a feeling of malaise, and weakness of the lower extremities. On the 15th I first saw her. She complained of great weakness and pain in the sacral and lumbar regions and the left thigh in front at about the upper half, the latter place being somewhat tender. She was unable to walk, and was obstinately constipated. On the 17th I found the left thigh somewhat swollen and whitish; there was no pitting. The left leg and foot were also œdematous and pitted on pressure. I noticed, on the patient lying prone on her abdomen, that the left buttock was half as broad again as the right. There was tenderness along the back of the thigh, at the back of the knee-joint, and in Scarpa's triangle, also in the region of the colon throughout. The temperature was 103° F. I could find nothing to account for her condition and nothing could be elicited as to her habits that was suspicious. She exhibited all the familiar signs of anæmia, with bruit-de-diable (bilateral) in the neck, anorexia, slight dyspnœa as she lay in bed, and a mitral systolic bruit was audible over the sternum conducted over the chest to the axilla and back. During the following days the temperature gradually fell as the size of the left limb increased. On the 18th her morning temperature was 103°; on the 19th, 102·8°; and on 20th, 102·6°. The left lower extremity was quite white, pitting on pressure everywhere as high as the buttock behind and Poupart's ligament in front. There was intense tenderness in the left groin. The evening temperature on the same day was 102·6°. On the morning of the 21st it was 102·2°. The lower limb was less swollen and less painful. No constitutional symptoms were complained of. On the 22nd the morning temperature was 101·6°, and the limb was still less swollen. The evening temperature was 101·8°. The morning temperature on the 23rd was 101·4°. A well-marked tender cord (the external saphenous vein) was felt behind the left knee-joint; also an ill-defined tender mass in Scarpa's triangle. On the 24th the lower limb was less œdematous than the day preceding, and painfulness was not so much complained of. On the 25th the patient felt better than she had during the whole of the present illness and was cheerful, The bowels now acted regularly. She was still ghastly anæmic. On the 26th, at 9 A.M., the patient overruled her nurse and sat out of bed on the night commode, when she suddenly felt very faint and distinctly felt something move from her thigh upwards into her body, how far she could not locate. Palpitation quickly set in, and urgent dyspnœa. When I saw her some hours later she was suffering great distress at the epigastrium and in the cardiac area; there was dyspnœa; the respiration was about 60, rather irregular, like panting; the pulse was very quick (144) and irregular in rhythm as well as in volume. A depression could distinctly be felt in the left Scarpa's triangle, where a clot had become dislodged. On the 27th, when I saw her in the morning, the pain at the præcordium was gone. The patient now complained of pain in the right side like stitch and a slight cough with no sputum, giving pain during the act in an area in the right side between the sixth and seventh ribs about in a line with the anterior axillary fold. There was no dulness over this area, but the breath sounds were weak in a somewhat circular patch the size of a crown-piece, with slight sound of crepitation,

[1] THE LANCET, Oct. 5th, Nov. 9th and 30th, 1895.

especially at the margins. No pleuritic friction could be detected. The rest of the pulmonary organs seemed quite normal. Respiration was about 50 and the pulse 140 and fairly regular. On the 28th the temperature was 101°, the respiration 48, and the pulse 150. On auscultating the heart the mitral murmur heard before was slight, but I heard three distinct sounds in the place of the usual two, occurring at regular intervals rapidly one after the other and followed by a slight pause. The heart's action was too rapid to distinguish one from another. There was great pain on breathing over the area in the right side mentioned, no cough, no sputum, but a strong desire to cough, which the patient absolutely controlled on account of the pain produced. The patch was slightly dull on percussion. Crepitations were heard all over it now. The temperature in the evening was 102·5°, the respiration 60, and the pulse 144. On the 29th, the morning temperature was 102°, the pulse 140, and the respiration 44. Dyspnœa was less urgent, and the patient on the whole seemed stronger. On the 30th, the morning temperature was 102·8° and the evening 102·2°. Respiration was 49 and the pulse 132. The patch of crepitations was larger—about the size of the palm of the hand; Bronchial breathing was audible towards its centre. The temperature the next night was 103°, but in the following eight or ten days it fell gradually to normal, the respirations then remained about 30 and the pulse about 100 and fairly regular in force and rhythm. As she recovered the cardiac sounds resembled those heard at the commencement of the case with the mitral bruit somewhat more marked than before. A small quantity of blood-stained mucus was noticed one day. On Dec. 3rd the limb was still painful, but no swelling was present. On the 4th the temperature was 100·6° in the morning. The right thigh was slightly swollen and whitish, the veins appearing abnormally blue, there was slight pitting. In a few days this condition dispersed and both lower limbs became normal in shape and size. The patient made a very good recovery. The mitral systolic bruit was still audible at the apex and in the axilla in February, 1894. There was no history of rheumatism. I regret that owing to the exigencies of a busy practice the record of the temperature is incomplete.

CASES 2 and 3.—These patients were young women aged twenty-one and eighteen years respectively. The left leg and thigh were affected in the same manner as in the first case, the swelling gradually increasing and reaching its maximum in about four or five days and then gradually subsiding. Tender veins were present in both, in Scarpa's triangle and at the back of the knee joint, and anæmia was apparent with its usual symptoms. A hæmic murmur, which disappeared absolutely after a few weeks, was audible over the sternum. Both recovered without any bad symptoms and were following their usual avocations about six weeks from the beginning of illness. There was moderate pyrexia in each for a few days.

Staines.

BILATERAL PARALYSIS OF THE RECURRENT LARYNGEAL NERVES DUE TO MALIGNANT STRICTURE OF THE ŒSOPHAGUS.

BY FRANK SAVERY, M.R.C.S. ENG., L.R.C.P. LOND.,
With Remarks by Dr. FELIX SEMON.

THE patient, a man aged fifty-four years, first consulted me for dysphagia on Oct. 17th, 1895. He was at this time rather stout and thick-set and looked the picture of health. He noticed the difficulty in swallowing in the July previous and could remember the day on which it first occurred. It appeared to him to be due to an accumulation of wind opposite the lower end of the sternum. He had been able to take ordinary food, but with difficulty, often taking a long time over meals, and especially over solids. He had lost no flesh and had had no pain. Nothing abnormal could be detected in the neck or throat and no enlarged glands could be felt. The chest and abdomen appeared to be healthy. On getting him to drink water the liquid could be heard to gurgle as if passing through a funnel. On Nov. 5th I took the patient to see Mr. Charters Symonds, who examined the larynx and found it healthy; he was unable to pass a bougie as the patient could not submit to it. On Nov. 10th I passed a No. 12 silk elastic bougie easily—the bigger sizes would not go. The obstruction was nine and a half inches from the teeth. On Nov. 18th Mr. Charters Symonds again saw him and confirmed the diagnosis of malignant stricture, passing a No. 12 bougie. He advised that the bougie should be passed twice a week and that perchloride of mercury with quinine should be administered. This treatment was carried out; the medicine at first gave the patient some relief, especially to the feeling of "wind"; the swallowing also was somewhat improved. About Dec. 9th the bougie would not go through the stricture, and though various sizes and kinds of bougies were tried I was unable on this or on any other subsequent occasion to get anything through. The swallowing varied very much; sometimes he could only swallow liquids, at other times solids fairly easily. At this time also he complained of pains in the right shoulder. Until Dec. 28th the patient had been to business fairly regularly. On this date he had an attack of bronchitis, to which he was subject, and this kept him at home. There had been little or no loss of flesh. On Jan. 6th the bronchitis was much better. The pains in the shoulder were worse and were shooting down the right arm and also up the right side of the neck and face; for this various remedies were tried; phenacetin, antipyrin, salicylate, and quinine; nothing, however, gave any relief except "nepenthe." He now began to lose flesh and depended for the greater part of his nourishment on liquid food. In the evening of Jan. 30th quite suddenly he noticed the taking of food caused coughing; this came on immediately after swallowing, all the food returning, and each time afterwards the food returned with coughing when he attempted to swallow—in fact, he could get down no food at all. He also found he could only speak in a whisper. On the 31st the symptoms remained the same, so nutrient suppositories were ordered with opium, and the patient kept in bed. It was hoped that by giving the stricture complete rest a long tube might be passed. On Feb. 2nd Dr. Felix Semon saw the case. He examined the larynx and found there was complete paralysis of both recurrent laryngeal nerves, the vocal cords remaining motionless in the cadaveric position. He asked the patient to lie on the side near the edge of the bed with his head hanging over the edge and then, water being poured into the mouth by means of a feeding cup, try to swallow. This was done, the patient swallowing quite easily and without any cough. Dr. Semon also advised that the patient should be kept in bed. From this time forward to March 9th only liquid food was taken, and always in the position just described on the right side: he was unable to take it on the left side as it caused great pain. As a rule he took about ten ounces at a time, getting it down in ten minutes or so, and about three or four pints of food in the twenty-four hours. On several occasions, however, he was unable to swallow at all for some hours; on one occasion (Feb. 21st) not for twelve hours. On the 4th inspiratory stridor was noticed, but he never complained of dyspnœa. On the 10th some enlarged glands could be felt just above the right clavicle and close to the trachea; these glands gradually enlarged and were tender. The position necessary to take food caused considerable pain in the right neck and face; it was relieved by giving "nepenthe." The vocal cords remained in the same position. On March 9th the patient was unable to swallow at all. As no bougie could be passed and gastrostomy was not allowed there was nothing further to be done except to give nutrient suppositories; he, however, rapidly got worse, wasted quickly, and died on March 17th. No necropsy was obtainable.

Dr. Felix Semon has kindly consented to add some remarks on the case, so I will add none myself except to say that I quite overlooked the paralysis, and thought the symptoms could only be caused by the ulceration of the growth through the œsophagus into the trachea.

Remarks by Dr. FELIX SEMON.—The interest of this case centres, of course, in the occurrence of complete bilateral paralysis of the recurrent laryngeal nerves. Whilst more or less incomplete paralysis of both these nerves is not of infrequent occurrence, really complete bilateral paralysis is but exceedingly rarely met with, owing to the fact that the lesion which causes the laryngeal paralysis almost always ends fatally before the stage of complete paralysis is reached. There are only a few cases of really complete bilateral paralysis of the recurrent laryngeal nerves on record, and I have seen it but once before, in a case published by my

colleague Dr. Ormerod in THE LANCET of March 13th, 1880. The symptoms resulting from this condition have always been described as complete aphonia and dyspnœa—the latter on exertion only. The present case, however, teaches that a further important symptom may be the result of the bilateral paralysis—viz., impossibility of taking nourishment in the ordinary erect position. The explanation of this is easy: during the act of swallowing the glottis must be closed. When both recurrents are paralysed closure is impossible, and food and drinks are therefore apt to penetrate into the larynx. Inasmuch as the sensibility of the laryngeal mucous membrane is intact, owing to the fact that the internal branch of the superior laryngeal nerve cannot be affected by a peripheral lesion attacking the recurrent laryngeal nerve, the entrance of any foreign substance into the larynx will be immediately followed by reflex cough and expulsion of the offending foreign body. This, no doubt, is the explanation of the symptoms described in the present case by Mr. Savery as occurring on Jan. 30th. It was obvious that when a position could be devised in which fluids might penetrate into the food passages without running the gauntlet of accidentally getting into the open glottis the patient might be enabled to take his food again *per vias naturales*. For this reason I suggested to try the position recommended by Dr. Norris Wolfenden for cases of painful dysphagia connected with laryngeal disease—viz., horizontal position on the side, with the head well over the edge of the bed, and fluid nourishment to be taken through a feeding-cup inserted into the lower angle of the mouth. When drinking in this position the fluid passes not over, but by the side of, the larynx through the hyoid fossa, and penetrates into the œsophagus without coming in contact with the posterior aperture of the larynx. From Mr. Savery's description it is seen that this plan proved perfectly successful and enabled the patient till the very last days of his life, when the increasing œsophageal obstruction rendered the passage of fluids altogether impossible, to take his nourishment by the mouth. I wish to avail myself of this opportunity to warmly recommend the adoption of this method in cases of tuberculous and malignant disease of the larynx and of malignant disease of the œsophagus, in which in several instances it has proved very useful in my hands, and would also suggest trying it in cases of post-diphtheritic anæsthesia of the larynx, in which the entrance of nourishment into the air passages must be feared. In conclusion, I beg to draw attention to the remarkable fact so often met with in such cases—viz., that the difficulty in swallowing and the loss of voice, which, according to the nature of things, must have originated quite slowly and gradually, are so often traced, as they were in the present case by the patient himself, to one definite occasion, and it would seem the most natural explanation that on that occasion he himself for the first time became conscious of there being something wrong.

Ealing, W.

ON THE DETECTION OF SMALL QUANTITIES OF SUGAR IN URINE.

BY MARK McDONALD, M.B. DUB.

MUCH difficulty is often experienced in making a urinary analysis in deciding as to the presence or not of a small quantity of sugar. All the ordinary tests, which depend on the reducing action of sugar, simply show that some substance is present capable of exerting a reducing action, and since all normal urines contain reducing substances one has to resort to some further procedure in order to decide definitely whether the urine contains a little sugar, or whether it is simply that its normal reducing constituents are present in excessive quantity. Take, for example, Trommer's test, which is probably the most popular. On applying the test we often get a liquid appearing by reflected light to be of a dirty-looking opaque greenish or brownish colour, and which appears by transmitted light to be brown or red and more or less transparent, but apparently contains no precipitated cuprous-oxide. This condition may be caused either by an excess of uric acid and kreatinin (practically, if not actually, the only normal reducing constituents), or a small quantity of sugar may be present and precipitation of cuprous-oxide prevented by various bodies contained in the urine. We can proceed on one of two principles to settle the question. Either apply some test distinctive for sugar—i.e., one not simply dependent on reduction—or eliminate the normal reducing substances. Elaborate chemical processes for the separation of the sugar will not be considered.[1]

In a recent paper[2] Sir William Roberts strongly recommends filtration through animal charcoal as a means of removing the normal reducing agents. This procedure was proposed by Seegan many years ago[3] as a method for detecting small quantities of sugar in urine. The differences in the methods and conclusions of these writers led me to work at the subject. While Sir William Roberts applies the tests for sugar to the filtrate from the animal charcoal, Seegan used the washings of the charcoal, which he found to contain a much purer sugar solution. Again, Seegan especially warns against filtration through animal charcoal where a quantitative estimation of the sugar is to be made, as he found that part of the sugar was retained by the charcoal, whereas Sir William Roberts recommends it as being specially well adapted for quantitative estimations since the sugar passes through in quantity "undiminished or nearly undiminished." I found that normal urines after thrice-repeated filtration through animal charcoal were quite colourless. They exerted extremely little reducing action. They contained no uric acid, but did contain some kreatinin, though in very much diminished quantity. It is remarkable that this kreatinin acts so far as if it were in pure solution in that it does not reduce picric acid unless a much larger quantity of potash is added than is required in natural urines to effect the reduction. I also found that when a little sugar was present (about one grain to the ounce), though the filtrate from the charcoal gave a much more satisfactory reaction with Trommer's test than the original urine, still there was no true precipitation of cuprous-oxide. The filter was then filled with distilled water twice and the washings collected separately and Trommer's test applied. The first washing gave a very distinct precipitate of cuprous-oxide, but the solution was muddy. The second washing acted very nearly like a pure solution of sugar. I then tried the effect of filtration through animal charcoal of solutions of dextrose of various strengths, the proportions present before and after thrice-repeated filtration being estimated by Fehling's solution. The following examples show the general tenour of the results obtained:—

Percentage of Dextrose found by Fehling's Solution.

No.	Before infiltration.	After infiltration.
1.	0·203	0·151
2.	0·62	0·48
3.	2·04	1·49

Therefore the charcoal retains a large part of the sugar. Much of this (but not all) can be recovered by thoroughly washing the charcoal with water. My results, therefore, agree with Seegan's, and the method which he recommended—i.e., the application of Trommer's test to the washings of the charcoal—is, I think, to be preferred. This procedure gives very pleasing results, but takes up some time and requires some apparatus and manipulation.

Of all the methods for determining the presence of small quantities of sugar by far the most satisfactory to my mind is the phenylhydrazine test. This test appears to have gained some by no means merited discredit. This is due, not to the test, but to the methods of applying it. Unless one is prepared to spend time and trouble over it it is better to leave it alone. The method which I have used and found absolutely satisfactory is as follows. To 20 c.c. of urine in a test tube add 0·75 gramme phenylhydrazine hydrochloride and 1·0 gramme sodium acetate. Put in a water-bath at about 90° C. for forty minutes. Allow to cool slowly and after some hours examine the precipitate under the microscope. If albumin is present in any quantity it should first be removed, as it sometimes interferes with the formation of the crystals of glucosazone. The only objection to the test is, I think, that it is rather too sensitive. At any rate, small, isolated

[1] The fermentation test, the most reliable of all, is not applicable to the small quantities of sugar considered here.

[2] On the Verification of Sugar-testing in the Urine. The Practitioner, January, 1896, p. 11.

[3] On a Method of Detecting Small Quantities of Sugar in the Urine: Brit. Med. Jour., 1872, vol. i., p. 469.

crystals should be neglected. The test may be rendered still more certain by treating some more of the urine with yeast for from twelve to twenty-four hours, and then on applying the test again it should give a negative result. By this method I have proved the presence of small quantities of sugar in more than half of all the urines I examined for some time (some forty) from cases of all kinds without any selection having been made. The objections to this test are that time is needed to apply it, and, moreover, it requires a little practice and some apparatus; but for satisfactory results it is unequalled.

What is still required, however, is some test which can be applied in a few minutes without any special apparatus and which will not react with uric acid and kreatinin. This will, I think, be found in a modification of the picric acid test. Picric acid is not reduced by uric acid, but it is by kreatinin. I have lately shown [4] that in very dilute boiling solutions of potassium picrate the kreatinin reaction is eliminated and only sugar causes reduction. At the time of writing I had very little experience of the reaction as a test and brought it forward more as a curiosity. Since then, however, after a long series of cases confirmed by the phenyl-hydrazine test, I have gradually been forced to the conclusion that it can be made of great value. By its means I can in a minute or two detect, with very little doubt, the presence of half a grain of sugar in an ounce of urine. The method I now always apply is as follows. Half a drachm of urine, half a drachm of saturated solution of picric acid, a quarter of a drachm of liquor potassæ, and about nine drachms of water are put in a long narrow test tube, and the liquid heated uniformly just short of boiling. The upper part is then boiled for one or two minutes. At first the red colour disappears in great part (kreatinin reaction), but if sugar is present it darkens again as the boiling is continued. In normal urines the colour does not come back, however prolonged the boiling may be. The presence of albumin does not interfere with the test. If a negative result is obtained sugar is not present, at any rate in quantity sufficient to have any pathological importance. Should the test react positively then some abnormal reducing agent is present, and if any doubt arise as to this being sugar it can be set at rest by applying the phenylhydrazine test in the manner above described, using the fermented urine also as an extra safeguard against error.

Waterloo, Liverpool.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF POST-PARTUM HÆMORRHAGE.

By R. L. WOOD, M.B., CH.B. VICT.

ON the afternoon of Aug. 27th a healthy woman aged thirty-five years, with a family of six children, was confined of a living and well-nourished child. She was delivered naturally, as, indeed, was the case at her previous confinements, and twenty minutes after the birth of the child the placenta came away without trouble. The palpating hand was then kept over the uterus for twenty minutes, at the end of which time the organ could be felt through the abdominal parietes contracted and as hard as the proverbial cricket-ball. When I left her no blood issued from the vagina. About an hour afterwards a hurried message came to the surgery to "come down at once to Mrs. ——, as she is flooding." On reaching the house and inspecting the patient she was seen to be quite blanched, the pulse was thready, and blood was coming from the vagina in considerable quantity. The hand being placed over the abdomen no uterus could be felt, but per vaginam that viscus was found full of blood clots and was in a condition of atony. The hæmorrhage was soon stopped by a hot vaginal douche and the clots got rid of, then the uterus contracted firmly and permanently. The subsequent course of the case was quite happy.

Upon inquiry into the cause of the complication the following history was obtained from the midwife and the patient herself. The patient was lying comfortably and quietly on her back in the bed, which was drawn across a window, and while gazing at a workman engaged on the roof of a house in course of construction on the opposite side of the road she saw the said workman swerve to one side, lose his balance and fall to the ground, a distance of some twenty-eight feet. The hæmorrhage from the vagina came on immediately afterwards. Such a history admits of no doubt as to the causes of the bleeding—shock and consequent uterine relaxation. This condition may be put down to the same series of nervous processes which give rise to the familiar symptoms of cardiac syncope, dilatation of the pupils, relaxation of the sphincters of the urethra and rectum, and other phenomena which occur as the result of fright or shock. A diseased state of the "ganglion cervicale uteri" has been assigned as the cause of habitual flooding after labour; if this be correct, one could argue that hæmorrhage such as that which occurred in the present instance is due to a temporary inhibition of this ganglion by means of nerve messages from the brain.

Sherringham, Norfolk.

[4] Note on the Picric Acid Test for Sugar: THE LANCET, Feb. 22nd, 1896, p. 476.

NOTES OF A CASE OF TETANUS; RECOVERY.

By ROBERT A. E. BACON, M.R.C.S. ENG., L.R.C.P. LOND.

As recovery from tetanus is so rare an event the following notes of a case which I have recently had under my care may be of interest.

On July 2nd I was summoned to see a young man aged eighteen years who had "a pain in his throat and could not swallow." I learned on inquiry that on June 21st he received two small wounds—one on the head and the other on the left thigh—caused by being struck with a piece of wood, through which projected a rusty nail. The wounds were small, but still visible, the one on the thigh being a little inflamed. He did not complain of any illness until after his meal in the middle of the day, when he shivered and had pains in his neck and throat. He continued with his work, but on leaving to return home his legs felt stiff and the pain in the neck and throat became worse. He arrived home at 6.30 P.M. and went to bed. At 8.15 P.M., when I saw him, there were well-marked tetanic spasms, chiefly of the upper extremity, with trismus, opisthotonos, and risus sardonicus. the respirations were harsh, the pulse was 100 and feeble, and the temperature was 105° F. There was free perspiration and the knee-jerks were increased, the spasms occurring at intervals of ten minutes. Chloral hydrate and bromide of potash, twenty grains of each, were given every four hours. I saw him again at 10.30 P.M., when the spasms, &c., were still well marked, the intervals between them being now about twenty minutes, and a muttering delirium was present. On visiting him the next day it was reported that he had passed a fair night except that his teeth became firmly closed on giving him food and that twitchings of the mouth, eyelids, and legs had continued on and off during the night. On examining the muscles of his neck and back they were found to be rigid and painful. The temperature was 103°. The chloral and bromide were increased to twenty-five grains each every four hours. Five grains of calomel were given at night. He continued to have twitchings of the face and arms up to July 5th, when, on being fed by the mouth, the spasms returned, his jaws becoming firmly closed and the chest fixed. I was sent for at once, but on my arrival the spasm had ceased, although the face was slightly cyanosed; the respirations were harsh and quick and the pulse was 112. I saw him later in the day and learned that he had complained a good deal of the stiffness and pain in the neck and back, the muscles of which were very rigid. The temperature was 100° and there was muttering delirium at times. The chloral and bromide were further increased to thirty grains each every four hours. From this date to the time of writing great improvement has taken place, the spasms having ceased. The temperature became normal; there was no delirium; the rigidity and pain in the muscles of the neck and back had nearly disappeared; and, except for a little stiffness in the neck and back, the patient is able to get about, although feeling very weak.

Southampton.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

CASE OF MALIGNANT STRICTURE OF THE ŒSOPHAGUS; KOCHER'S GASTROSTOMY; REMARKS.

(Under the care of Mr. PEARCE GOULD.)

THE operation of gastrostomy has been much discussed since the possibility of giving relief by it in cases of malignant stricture of the œsophagus has been recognised, and hardly a week passes in which some further addition to the literature of the subject is not made. At one time the mortality was very high, now, in selected cases, with antiseptic precautions and a skilled operator, death as a result of the operation should not exceed 10 per cent. The better methods are those which permit opening of the stomach at once and the immediate introduction of food, as in the case described below. Mr. Greig Smith in the last edition of his work on Abdominal Surgery says,[1] "If the main principles of firm fixation to the parietes, the provision of a tube of stomach-wall to make the fistula, and close coarctation of muscle are observed, almost any method of operation will succeed." For the notes of this case we are indebted to Mr. W. Irving, house surgeon.

A man aged fifty-three years was admitted into Pepys' Ward on July 17th, 1896. He stated that his illness began in July, 1895, with frequent vomiting immediately after food. Shortly after this swallowing became painful to him and increasingly difficult, so that by September he was no longer able to take bread. From that time he got rapidly worse, and was only able to take solid food if it was broken up very fine, and even then he had to take a mouthful of liquid after each mouthful of solid food to "wash it down." The regurgitation of food continued and increased in amount. In March, 1896, he was admitted into the Royal Chest Hospital under the care of Dr. Gilbart Smith, and was then seen in consultation by Mr. Pearce Gould. It was found that bougies could be passed through the stricture, and for a time this enabled the patient to swallow better, and he gained in weight. A Symond's tube was tried, but gave the patient so much discomfort that it had to be removed. After some weeks of this treatment the passage of a bougie became more and more difficult and accompanied by slight hæmorrhage and it was decided to perform gastrostomy, and for this purpose he was transferred to the Middlesex Hospital. On admission the patient was found to be very anæmic and emaciated. He stated that he had lost 4 st. in weight. He had great difficulty in swallowing even liquids and most of the milk that he took was regurgitated. Food seemed to him to be arrested opposite the xiphoid cartilage, and he complained of constant pain passing through from this point to the spine. An œsophageal bougie localised the obstruction just above the diaphragm. On examining his chest a patch of dulness about the size of the palm of the hand was found in the lower part of the left intrascapular region, and here the breath sound was bronchial in character. No other evidence of disease was found in the man. Operation was performed on July 9th. A vertical incision two and a half inches in length was made over the left rectus muscle, its upper end being one inch below the costal arch. The sheath of the rectus was opened and the muscular fibres separated, not cut; and then the back of the sheath, the transversalis and sub-serous fascia, and the peritoneum were divided. The presenting part of the stomach was drawn out through the wound, and then a second incision one inch long was made along the seventh left costal cartilage, and the bridge of skin between this and the upper end of the first incision was raised. The stomach was passed beneath this bridge of skin and fastened by six silk sutures to the edges of the upper incision. The vertical skin incision was then closed with a continuous silk suture. Finally the stomach was opened and a No. 12 English gum catheter was fixed in. The man did not suffer appreciably from shock, and four hours after the operation 2 oz. of warm milk was injected into the stomach, and this was repeated twice during the night. On July 10th the patient had had a comfortable night and had slept fairly well. He was ordered 4 oz. of warm milk every four hours. On the 12th the improvement continued. He had quite lost the old pain between the shoulders. There was no regurgitation from the stomach. He was ordered 6 oz. of warm milk every four hours and two eggs during the twenty-four hours. On the 15th he was ordered 8 oz. of milk every four hours. He had quite lost his old sense of hunger and thirst as well as the pain. The face was less "drawn," his abdomen was fuller, and his general muscular tone was better. The abdominal wound healed by first intention and the stitches were removed on the 22nd and the man got up on the 25th. Since this the improvement has continued. He takes 12 oz. of food every four hours through the fistula—milk, beaten-up eggs, pounded beef, and Benger's food—and night and morning he takes a cup of tea or cocoa by the mouth. He finds that he can swallow this with less difficulty than before the operation and without pain. He is able to walk about the garden and enjoys his pipe. On July 28th his weight was 8 st. 1½ lb., on Aug. 2nd 8 st. 4½ lb., and on Aug. 10th 8 st. 7 lb.

Remarks by Mr. PEARCE GOULD.—The method of operating followed in this case was introduced by Kocher of Berne and it appears to be by far the most satisfactory method of making a gastrostomy. The operation is exceedingly simple and easy of execution—a great point in such patients as form the subjects for this operation—and being without any complicated suturing is very quickly done. The peritoneal cavity is so completely shut off by the stomach drawn through the rectus muscle and turned up over the costal cartilage that it is quite safe to open it at once and feed the patient from the first. This is another great gain. It has been claimed for this method of operating that the rectus muscle acts as a sphincter muscle and prevents any regurgitation of the contents of the stomach through the fistula. I have not found this to be the case, but I have found it easier to prevent escape of food after this operation than after other methods of gastrostomy. At first I used a catheter to introduce the food into the stomach, then in order to give him thicker food, and especially pounded meat, I replaced this by a Symond's tube, which answered well for feeding, but he found the tube rather painful and it prevented his bending his body freely. I have changed this for a piece of plain, stout drainage tubing, into the outer end of which he fits a cork between the intervals of feeding. The man finds this quite comfortable and very satisfactory for feeding purposes. With this very simple plan there is not the least leaking of any of the stomach-contents. The improvement in the patient's condition since the operation is very marked. It is interesting to notice that rest to the gullet has not only relieved the pain, which seemed to be quite severe and was always brought on by extension of the spine or deglutition, but has also restored to the man a little power of swallowing. He is now able to swallow a cup of tea much more comfortably, quickly, and easily than he could swallow any fluid prior to the operation.

[1] Abdominal Surgery, fifth edition, vol. i., p. 492.

THE GENERAL HOSPITAL, MADRAS.

THREE CASES OF VOLVULUS OF THE SIGMOID FLEXURE IN WHICH THE OPERATION OF INGUINAL COLOTOMY WAS PERFORMED.

(Under the care of Surgeon-Lieutenant-Colonel J. MAITLAND and Surgeon-Major ROBERTSON.)

ACUTE obstruction of the large intestine due to volvulus (the only way in which acute obstruction of this portion of the bowels without hernia arises) is of some rarity. The three cases which follow are, therefore, of considerable interest. Characterised by sudden invasion not usually accompanied by severe pain, such cases when not properly treated generally prove fatal in a few days. The great distension of the abdomen which is characteristic of this form of obstruction was very evident in Cases 1 and 2. Vomiting is not a very marked symptom, and in Case 2 was not present until five days after the commencement of the obstruction. Peritonitis is apt to appear at an early date. Death has been known to occur on the third day from asphyxia due to the pressure of distended intestine. The best method of treating these cases if diagnosed is by lumbar colotomy.

CASE 1. (Under the care of Surgeon-Lieutenant-Colonel MAITLAND.)—A Hindoo aged thirty-five years was admitted into hospital with symptoms of intestinal obstruction which had commenced three days previously. The abdomen was enormously distended, especially in the region of the transverse and descending colon, and the distension interfered considerably with respiration. The general condition was fairly good. Inguinal colotomy was performed the following morning—that is to say, on the fourth day of illness. When the abdomen was opened a distended coil was at once exposed to view, but the tension was so great that it was found impossible to stitch the parietal peritoneum to the gut sufficiently to shut off the sac of the peritoneum completely. Accordingly two parallel rows of stitches alone were applied and the gut tapped by means of a large trocar. After this the distension was so far relieved as to permit the closing of the peritoneal wound. A piece of indiarubber tubing was inserted into the opening in the gut and fixed by sutures. The operation was followed by immediate relief and two days afterwards a motion was passed by the rectum. The patient made a speedy recovery, but was left with a small faecal fistula. He refused to have this closed by operation.

CASE 2. (Under the care of Surgeon-Major ROBERTSON.)—A Hindoo aged sixty years was admitted into hospital with symptoms of intestinal obstruction of five days' duration. The abdomen was enormously distended and visible contractions of the intestine were noted in the region of the transverse and descending colon. Vomiting commenced after admission to hospital. The general condition was fairly good. Inguinal colotomy was at once performed, and the dilated intestine lying at the seat of operation was stitched to the wound and opened. The operation was followed by relief of the symptoms and two motions were passed per anum on the second and third days. Unfortunately, peritonitis set in and he died on the fourth day after operation. A post-mortem examination was not permitted.

CASE 3. (Also under the care of Surgeon-Major ROBERTSON.)—A Hindoo aged thirty years was admitted into hospital with pain in the abdomen said to be of thirty-six hours' duration. He had a fair pulse, but his features were pinched; the abdomen was tender and somewhat tympanitic. Surgeon-Captain Giffard, who was called to see the case, diagnosed volvulus of the sigmoid flexure and at once performed inguinal colotomy. On puncturing the distended intestine, found at the seat of operation, gas and solid faeces escaped. The bowel was washed out, but nothing more came away. Before suturing the gut the operator distinctly felt twisting of the gut at the flexure. A rubber tube was inserted into the opening in the gut. The patient never rallied from the operation and died six hours afterwards from shock. At the post-mortem examination it was found that a very small tense volvulus had been opened, but this had not relieved the obstruction, as the gut had been opened in the middle of the volvulus.

Remarks by Surgeon-Lieutenant-Colonel MAITLAND.—There is still some diversity of opinion regarding the best method of dealing with cases of vovulus of the sigmoid flexure. In the majority of the recorded cases laparotomy by a median incision has been the operation resorted to, but this is probably due to the fact that in many of these cases the actual nature of the lesion was not diagnosed before operation. Although Senn has reported a successful case there are probably few surgeons who would now advocate median laparotomy. The choice lies between inguinal and lumbar colotomy. Mr. Treves advocates the latter operation and states that "inguinal colotomy would merely open the distorted loop and not the bowel above the obstruction." That this is not necessarily the case is shown by the first two cases detailed above. In both of these cases the operation of inguinal colotomy was successful in removing the obstruction. In the third case the result anticipated by Mr. Treves did actually happen, but the state of affairs was at once evident to the operator, and had the patient been in a less collapsed condition it would probably have been easy to bring down the distended colon and open it. In considering Mr. Treves' objection to the operation of inguinal colotomy in these cases it should be remembered that in the majority of cases the twisted loop of intestine as it distends passes across to the right side of the abdomen and then upwards towards the right hypochondrium, because it meets with least resistance in that direction. It is prevented from rising into the left flank by the resistance offered by the enormously distended colon.

Reviews and Notices of Books.

Die Geschichtliche Entwickelung des Ärztlichen Standes und der Medicinischen Wissenschaften. (*The Historical Development of Medicine as a Profession and a Science.*) Von J. HERMANN BAAS, M.D. Mit zwei Abbildungen in Holzschnitt. Berlin: Friedrich Wreden. 1896.

No abler or more accomplished physician has ever taken in hand the history of medicine than Dr. Baas, whose studies in that fascinating field have contributed so powerfully to attract to it the interest of the lay as well as the professional world, and thereby to enlist an ever-increasing phalanx of workers in its wider and deeper cultivation. So many scholars, medical and non-medical, are now investigating the origin and development of the healing art, its advance and occasional retrogression, its evolution and temporary involution, that the material constantly thrown up is found to modify even the later conclusions as to its epoch-making periods, and every succeeding decade makes it necessary, if not to re-write, at least to re-edit, the systematic treatises of which it is the subject.

In no department of the field is this more strikingly the case than in the pre-Hellenic—that is to say, in the old Egyptian and pre-Asiatic medicine. The overshadowing claims of the school of Cos to the virtual creation of the art and science alike are no longer tenable. So full and well defined are now the indications of pre-Hellenic doctrine and practice in the valleys of the Nile, the Indus, and the Ganges that the indebtedness of Greece to these sources, formerly conjectural, is now authenticated fact; while antecedent even to Egyptian and Hindoo medicine are the pre-historic traces of a rudimentary healing art among what Dr. Baas classifies as the "Schriftlose Naturvölker"—the unlettered aborigines of the great ocean-archipelagos in either hemisphere. In an eloquent exordium he tells us how among all created beings man alone can, of his individual initiative, defend himself against diseases; to him only in this struggle are other weapons at command than the self-preserving vital powers inherent in every animated organism; in his hands alone has "das einzige animate Gehirnwesen" become ancillary to the conception and appliance of artificial means for the rehabilitation of the suffering body. Sophocles, in his grand hymn on human genius, does not forget to sing of its contrivance of escape from hopeless malady—contrivance improved and perfected in the march of evolution till nought but death itself interposes a barrier to its inventive energy.

A masterly survey of the "Urmedicin" of the illiterate savage prepares us for an account of the priestly medicine of the Egyptians and Hindoos—both chapters brought up to the most recent date of scientific and scholarly research. Linked organically to these comes the "Welt medicin" of the Greeks, with its inspiring genius Hippocrates, whom Dr. Baas confirms on his pedestal as "Schopfer der ärztlichen Kunst und des grossen Wissenschaftsgebietes der Medicin" (a creator of the medical art and of the great scientific domain of medicine). A sketch of the Alexandrian school follows, in which we may note the author's appreciation of Mr. Kenyon's discoveries in palæography, and then we arrive at the Græco-Roman Medicine, his presentation of which includes, not only a fresh and vivid portrayal of Celsus, but a just estimate of "der grosse Pergameuer" Galen. Chapter V. brings us to Mediæval Medicine. Here again we cannot withhold praise for the thoroughness with which he has mastered the latest material brought to light through innumerable channels. The intensely interesting period of the Renaissance carries us over a wide field in which contemporary sciences, newly born or starting into fresh life, are indicated in their organic connexion with the now rapidly developing art of healing. In undesigned

illustration of Professor Luciani's striking distinction between the various kinds of "error" we have the "benignant errors" of pioneers like Paracelsus put impartially before us, until with the seventeenth century we reach a chapter of supreme interest, in which the "Standesgeschichte" (the history of the status) of the practitioner is overtaken. Student-life, the attraction exercised by universities, with the numbers of their *alumni*, with their abuses, and with the relation of the professors to the whole academic programme,—all are given with the amplest knowledge and in the clearest outlines, till we come to the great pioneers of practice, as well as of doctrine, who in both respects make the century so memorable. A genial sketch of the "British Hippocrates," as Puccinoth designates Sydenham, leads up to a series of cabinet pictures of departmental medicine, particularly in its aural and ophthalmic sections, with supplementary side glances at materia medica in its various aspects. Dr Baas's task now becomes at once easier and more difficult as he traverses the eighteenth and nineteenth centuries—easier on account of his wealth of material, more difficult because that wealth really constitutes an *embarras de richesses*. In fact, we are on the threshold of that state of things which Professor Michael Foster depicted so powerfully at the Eleventh International Congress of Medicine and Surgery—when science and research became, in process of time, so hampered by the very multitude of their votaries that it is impossible to keep pace with the yearly, monthly, nay, weekly, output of results obtained in the laboratory, in the operating theatre, and by the bedside, involving waste of energy and efforts on the part of contemporaneous inquirers, who, ignorant of what has been done in the immediate past, painfully retraverse ground already beaten, and announce their "discovery" or their "contribution" to science or to practice only to find that it has been more or less fully anticipated. To remedy this we have medical journalism, with its periodical record of results, theoretical and practical, but this in turn has attained such manifold dimensions that once more the investigator or observer finds it impossible to keep an eye on its rapidly recurring presentment of fact or doctrine.

On this department of medical evolution Dr. Baas is disappointingly meagre. Indeed, a history of the journalism of the profession would require a chapter to itself; but the author, in his otherwise exhaustive narrative of the means and methods by which the healing art has developed, has only a few incidental remarks to give us at page 369 in the "Medicinische Journalistik m 18 ten Jahrhundert!" And yet we could conceive such a historical survey as Dr. Baas has given us subserving a yet more useful purpose—nay, contributing in some measure to attain the end desiderated by Professor Michael Foster—if in its successive editions or in supplementary chapters, appearing at short intervals, it gave a supplementary *résumé* of the more valuable and enduring conquests in medical practice or medical observation, classifying them in the order of scientific or clinical importance, and so keeping the professional world *au courant* with the really organic accessions to its resources. Forming as it were an appendix to a systematic and comprehensive panorama of the healing art from its dim dawnings in the prehistoric past, down through the series of centuries, to the living and energising present, such a publication would keep ever prominent before the professional mind that essential continuity and advance from less to more, from ruder to more refined, from theoretically tentative to inductively established, which of itself is such a salutary discipline to the practitioner, teaching him lessons of caution, of prudence, of that "learned ignorance," which one of the greatest of nineteenth century philosophers elevated into the ideal of the sound scientific intellect. Those lessons, indeed—*φωνάντα συνετοῖσιν*—have not been thrown away on those capable of receiving them—on the master-minds of scientific medicine. They sound in tones of solemn admonition in the aphorisms of Hippocrates; they are caught up and echoed in the prayer of his mighty successors from Galen to Sydenham, from Baglivi to Boerhaave, from Morgagni to John Hunter, and from Bichât to Schönlein and Virchow. The first and last notes they strike are those of modesty, perseverance, and hopeful anticipation—notes appealing eloquently to every true observer and practitioner in the beautiful verses which Dr. Baas cites from the "Dreizehnlinden" of Dr. F. W. Weber:

> "Und da sich die neuen Tage
> Aus dem Schutt der alten bauen
> Kann ein ungetrübtes Auge
> Rückwarts blickend vorwärts schauen!"

The Etiology, Symptoms, and Treatment of Gall-stones. By Dr. J. KRAUS, Sen., of Carlsbad, with Additional Remarks on Operative Treatment by HENRY MORRIS, M.A., M.B. Lond., F.R.C.S. Eng. London: Kegan Paul, Trench, Trübner, and Co. 1896. Pp. 173. Price 5*s*.

THIS work is a translation of Dr. Kraus's German work, "Beiträge zur Pathologie und Therapie der Gallensteinkrankheit," now in its second edition. Dr. Kraus as an authority on gall-stones is so well known that a book on this subject from his hands is sure to meet with a favourable reception. His large experience at Carlsbad has given him exceptional opportunities of studying the subject and recording the conclusions at which he has arrived. His statistics of the occurrence of gall-stones at various stages and in the two sexes agree very closely with the results of other observers. The section on the Morphology of Gall-stones, although very clearly expressed, contains little that is new; the same may be said of that on Etiology. Section IV. treats of the Symptoms and Course of the Symptoms produced by Gall-stones, and Dr. Kraus lays especial stress on "the prodromal state," urging that if this stage was more generally recognised and suitable treatment adopted much might be done to ward off the formation of the stones. Amongst the symptoms of this stage are constipation, flatulency, small or capricious appetite, sense of pressure in the region of the stomach, a pale or yellowish hue of the skin of the face, and a tinge of yellow in the conjunctiva, not distinctly perceived unless the lower lid is drawn down and the eyeball rolled upwards. The sufferers do not feel ill enough to seek medical advice; all they do is to use some home remedies, for the most part irrational purgatives, which only make their condition worse, and thus do not, as a rule, come under the notice of the physician until the condition of cholelithiasis is well established. Dr. Kraus describes in a graphic manner gall-stone colic, and then proceeds to discuss the spontaneous passing of a stone and the opinions of other authors on this subject—a chapter full of interest and instruction. The section on treatment is an excellent one and will well repay perusal; for the colic he recommends the hypodermic injection of morphia or the administration of chloroform.

The value of the book is considerably added to by the remarks of Mr. Henry Morris in the Surgical Treatment of Gall-stones, a chapter replete with interest and useful knowledge, the result of a very large experience. The only fault we have to find with the section is that it is too short, and we feel sure that readers would gladly have followed more of Mr. Morris's remarks. Mr. Morris lays great stress on superiority of cholecystostomy over other operations, and considers that aspiration and puncture with trocar and cannula ought never to be done. He lays down very clearly the indications for operative treatment and enters into details of the four headings: Tumours, Abdominal Pains more or less associated with Gastric and Intestinal Disturbance, Jaundice, and Fistulæ.

We confidently recommend this work to the notice of our

readers as founded on sound knowledge, and, as we have already stated, it is written by two men whose experience on the subject is vast and whose words will be received as the voices of authority.

LIBRARY TABLE.

State Hospitals Bulletin (State of New York), July, 1896.—The promise given in the opening numbers of this quarterly journal is being amply sustained and the quality of the work maintains its high standard of excellence. In the present issue appears a valuable contribution from the pen of Professor F. Petersen on the Stigmata of Degeneration, a subject to which the writer has evidently devoted much time and study. There is great force in his contention that a thorough understanding of the various indices of degeneration would be of value, not only to those engaged in medical work connected with reformatories, prisons, asylums, and like establishments, but also to the general practitioner, who is frequently brought into contact with degenerates outside of institutions, and commonly at so early a period of life—childhood and adolescence—that he may often do a large amount of good by calling attention to an indication of a degenerative tendency in some member of a family—a discovery occasionally of great significance as regards prophylaxis, education, and care. The eccentricities, peculiarities, and frequently culpable folly associated with the conduct of such persons in later life lend added importance to the practical value of these remarks. The article is illustrated by a series of plates, several of which are representative of deviations from the normal palate. This abnormality must be regarded as one of the most significant of the signs of degeneration, and it is frequently to be met with amongst criminals. Dr. Wise, of the St. Lawrence State Hospital, in referring to the use of static electricity for the alleviation of mental disease, observes that the application of this form of treatment by electric baths, static breeze, or local sparks leads him to the belief that the current has a distinct effect on the vasomotor apparatus and acts as a stimulant to the circulation and to nutrition. An article on prophylaxis in the puerperal insane, including the details of a case of puerperal septicæmia, will repay perusal. There is also a clinical report on the thyroid treatment of insanity exemplified by the history of seven cases so treated. It is well known that during the course of an intercurrent attack of acute febrile disease mental symptoms tend to become less prominent or remain in abeyance; the influence of thyroid treatment seems to be exerted in much the same way, and while temporary relief may be afforded as far as the disordered mentality is concerned, it is open to doubt whether permanent benefit can be established except in a small proportion of cases. It deserves to be recorded, however, that in two of the above cases in the Willard State Hospital, whence this clinical report emanates, the improvement continued, and that after the lapse of three months from the exhibition of the remedy, which was given for a period varying from eleven to twenty-two days. One of the cases is regarded as favourable for complete recovery.

Fellow Travellers. By GRAHAM TRAVERS. Edinburgh and London: William Blackwood and Sons. 1896. Price 6*s.*—The clever author of "Mona Maclean" has given us another excellent novel, or rather collection of "novels." Two of them are really medical in the best sense—that is, they deal with medical subjects without recalling the post-mortem room. The old practitioner in "After Many Days" is a worthy pendant in—we do not like to say fiction, because such characters do exist, but in literature—to Ian Maclaren's William Maclure. "The Examiners' Conscience" deals sympathetically with a class of whom it may be said, as the undergraduate said of parents, "After all, gentlemen, we must remember that they are our fellow creatures." By the way Graham Travers has evidently undergone the agonies of the torture chamber herself. Of the three other stories we can recommend "A Great Gulf" as an admirable bit of character drawing, although it does not tell the story very clearly, and the "Story of a Friendship" is well constructed, easy to read, with a pathetic undercurrent running through it, which, however, is kept well restrained.

The Volunteer Surgeon's Guide. By Surgeon-Captain R. R. SLEMAN, Artists R. V. Instructor, Volunteer Ambulance School of Instruction, Author of "The Manual for the Volunteer Medical Service," and joint author of the "Official Drill Manual of the St. John Ambulance Brigade." London: William Clowes and Sons, Limited, 13, Charing-cross, S.W. Price 3*s.* 6*d.*—The work of the volunteer surgeon has on more than one occasion received the praise of high military authorities and increased endeavours have been made to bring the efficiency of the Volunteer Medical Service to a yet higher standard than at present. As the author intimates, the guide is intended to be a brief summary of the many regulations which affect the Volunteer Medical Service, and he is to be congratulated on the succinct manner in which he has accomplished his task. Official regulations are as a rule more or less complicated, while the observance of them is a *sine quâ non* to success. The little guide should prove useful to volunteer medical officers.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By A. MILNES MARSHALL. Sixth Edition. Edited by G. HERBERT FOWLER, B.A., Ph.D. London: David Nutt, 271, Strand. 1896. Price 4*s.*—This edition of Professor A. Milnes Marshall's famous little introduction to the study of elementary zoology has appeared under the editorship of Dr. Herbert Fowler, late Berkeley Fellow of the Owens College, Manchester, and Assistant Professor of Zoology at University College, London, and needs no recommendation from us. We have only cordially to endorse Dr. Fowler's eulogy of Professor Marshall in his preface. "Professor Marshall," he says, "had so complete a grasp of the difficulties which confront a student of elementary zoology, and so great a sense of proportion and arrangement, that no substantial alteration could increase the educational value of his work."

JOURNALS AND REVIEWS.

Archives de Physiologie. No. 3. Juillet, 1896. Paris: Masson et Cie.—This part contains numerous articles, of which the following is a short *résumé*. 1. Researches on Biliary Pigments especially bearing on the Preparation of Biliverdine and the Alterations it and Bilirubin undergo from Microbic Influence, by MM. Hugounenq and Doyon. 2. On the Molecular Equilibrium of the Fluids of the Body, by M. J. Winter. This paper is a study of the limits of concentration of the urine. 3. An Analytic Method of determining the Quantities of Heat generated by the Human Organism exposed to the Refrigerating Influence of Water and to different Temperatures, by J. Lefèvre. He finds that when the temperature of the bath is lowered the total loss of heat undergoes considerable augmentation. At 5° C. the generation of heat is ten times greater than at 30° C., hence there is no special resistance to the action of cold by diminution of loss from the periphery. 4. On Renal Absorption, by Ad. Huber. 5. A Description of an Apparatus to Measure the Interchange of Gases in Respiration, by M. J. Tissot. 6. The Relations between the Respiratory Quotient and Exercise of the Muscles followed by Rest, by M. F. Laulanie. 7. On the Elimination of Cholesterine in the Bile by MM. Doyon and Dufourt. 8. MM. Charrin and Cassin on the Active Functions of the

Mucous Membrane of the Intestine in the Defence of the Organism. 9. MM. Mairet and Bosc, Researches on the Effects of the Administration of the Pituitary Gland in Animals and in Healthy and Epileptic Men. They find that the injection of the pituitary juice into the veins causes death by coagulation of the blood. Subcutaneous injection of the pituitary gland produces only slight physiological effects, the chief being a trifling elevation of temperature, some debility, and gastro-intestinal disturbance. Intravenous injection causes serious toxic symptoms with well-marked myosis. In epileptics the injection and ingestion of the gland did not diminish the number of attacks of epilepsy. It occasioned after the lapse of three or four days from the time of injection delirious attacks. 10. MM. E. Wertheimer and L. Lepage on the Functions of the Pyramids in the Medulla Oblongata. The experiments of these observers demonstrate in opposition to the statements of Brown-Séquard that the pyramids not only serve for conduction of motor impulses, but that these are crossed. At the same time their integrity is not indispensable for this transmission. 11. MM. D. Courtade and J. F. Guyon on the Motor Innervation of the Bladder. These experimenters show that each of the muscular layers of the bladder has its own special set of nerves. 12. A case of Acquired Spasmodic Paraplegia due to Primary Sclerosis of the Lateral Columns, by Professor J. Dejerine and M. J. Sottas, with figures. 13. MM. Rodet and Nicolas give the results of their observations on Experimental Pneumothorax and on the Changes Undergone by Gases Injected into the Pleura. They find the changes to be very rapid and to result from an exchange with the gases of the blood. 14. M. C. Delezeune endeavours to show that an anti-coagulating substance is produced by the liver. 15. MM. A. Stadfeldt and M. Tscherning on a New Mode of Studying the Refraction of the Crystalline Lens, dealing with the difficult problem of the refraction of light through a medium which is not optically homogeneous. 16. Researches on the Retinal Oscillations, by Professor Aug. Charpentier. 17. M. J. Laudenbach on the Hæmopoietic Function of the Spleen. 18. M. Hallion, Contribution to the Technic of Intravascular Injections. 19. MM. E. Gley and V. Pachon on the Influence of the Liver on the Action of Peptone. There are in addition some critiques.

Journal of Anatomy and Physiology. Conducted by Professors Sir GEORGE HUMPHRY, Sir WM. TURNER, and J. G. M'KENDRICK. Vol. XXX., Part 3. 1896. Charles Griffin and Co.—Amongst the articles contained in this part are:—1. On the Formation and Structure of the Optic Nerve and its Relation to the Optic Stalk, by Dr. Arthur Robinson. It is here shown that in mammals the optic stalk becomes converted into the optic nerve by the transformation of its protoplasmic substance into retiform sustentacular tissue and by the passage of nerve fibres through its walls, the nerve fibres being protected and supported by the external limiting membrane of the stalk, the transformation from the stalk to the nerve being associated with the disappearance of the cavity of the stalk. The author further deals with the origin of the optic nerve fibres and their course through the optic stalk, and with the relation of the optic nerve and the retina to the brain. 2. On the Pancreas of the Hedgehog during Hibernation, by Dr. E. W. Carlier, in which it is shown that the pancreas is in an active state. The condition of the cells of that gland are fully described. 3. Dr. Keith Campbell describes and gives a drawing of an Accessory Segment he found in the Pulmonary Valve. 4. Dr. Byron Robinson of Chicago gives an account of the Arrangement of the Peritoneum in Animals. 5. Dr. J. H. Sequeira, Demonstrator of Anatomy at the London Hospital, describes a case of Ectopia Vesicæ with Patent Vitelline Duct. 6, 7, and 8. Mr. Edred Corner, B.Sc., contributes three papers, one on some Structures in the Elbow-joint, the second on the Temporal Fossa, and a third on the Processes of the Occipital and Mastoid Regions of the Skull. In the first article he points out the presence of a crucial ligament and a semilunar fold on the inner side of the external lateral ligament in various quadrupeds. In the second article many measurements are given of the fossa. 9. Dr. E. Barclay Smith, Demonstrator of Anatomy in the University of Cambridge, gives a minute description of the Astragalo-Calcaneo-navicular Joint. 10. Dr. David Hepburn of the University of Edinburgh gives details of the Structure of the Grey Seal Halichoerus Grypus. The specimen was 6 ft. 9 in. long. 11. Dr. Johnson Symington, Professor of Anatomy, Queen's College, Belfast, discusses the Homology of the Dumb-bell-shaped Horn in Ornithorhynchus. 12. Professor E. Fawcett of University College, Bristol, contributes a short paper on Sibson's Muscle, Scalenus Pleuralis, and considers it to be more complex in its character than has hitherto been admitted. Lastly, Mr. Gregg Wilson, B.Sc., supplies details of certain cases of Hereditary Polydactylism and gives illustrations obtained by the Roentgen rays.

The Edinburgh Medical Journal.—The most interesting paper in this journal is that on Insanity in Children, by Dr. W. Ireland. Speaking of suicide in children he quotes Wynn Westcott as saying: "Child suicide is increasing in England and in almost all continental States. But what undoubtedly causes many cases now is over-pressure in education, while the education itself produces precocious development of the reflective faculties, of vanity and of the desires." We hope the Education Department and the *Daily Chronicle* will note this. Dr. J. W. Ballantyne continues his interesting papers upon Teratogenesis, dealing mainly in this number with maternal impressions.

The Practitioner.—The editorial columns discuss the meeting of the British Medical Association in a deservedly Gallio-like spirit. Concerning bulletins the editor says: "In my opinion they should be confined to a bare intimation that the patient is better or that there is no improvement, and they should not be signed except in the case of a personage, to use the words of Sir Henry Halford, 'of so elevated a station that his safety becomes an object of anxiety to the nation.'" The "Hero of Medicine" for the month is the great Baron Larrey. The Medico-Literary Causerie deals with the various fragments of famous men preserved in museums and private collections. The writer thinks, and we cordially agree with him, that the right place for such things is the grave. He does not instance the skull of Sir Thomas Browne, which was sacrilegiously removed from his grave in St. Peter Mancroft and is now in the Norwich Hospital, from which it should certainly be removed to its former resting-place. Of course, if a specimen has any pathological interest that is a different matter.

The Ludgate.—This magazine continues its romances of poisons. They are romantic indeed. The villain in the present story poisons two victims with "curare," or, at least, a preparation of it, "combined with prussic acid and a poison extracted from the bodies of certain venomous ants." This compound he places in the sock belonging to the man he desires to kill. He also impregnates the sock with "a strong acid which would cause an excoriation of the cuticle and so admit the poison to the bloodvessel." Now curare and prussic acid are antagonistic, and any acid strong enough to destroy the cuticle would probably decompose the prussic acid and also expend most of its power on the sock before the victim put it on. Really the amateur toxicologist should take a little more trouble.

The Windsor.—More lay medicine. In a story called "Promotion" one of the characters has a rigor; he has felt chilly for the last two or three days. He is very irritable very thirsty, is more or less delirious, and has no appetite.

His companion telegraphs his symptoms to "the Government medical man twelve hundred miles away and receives the astounding answer, 'Typhoid in a serious form.'" Were we to hazard a diagnosis we should say pneumonia, but a little later on we read that he had a crisis on the twenty-first day and was slumbering like a little child. They always do in fiction; but it is hard that such a well-marked crisis should have occurred in so desolate a region as the story indicates, for such a thing in typhoid fever is rare to a degree.

Pearson's Magazine has an interesting article with facsimiles on the Handwriting of Mad People, written by that expert in handwriting, J. Holt Schooling. Perhaps the article does not add much to our knowledge of psychology, but it does show that mental instability, even when not caused by poisons that act on the muscles as well as the nervous system, does cause certain peculiar changes in the performance of the finer manual acts.

New Inventions.

A SPLINT FOR THE TREATMENT OF FLEXED JOINTS.

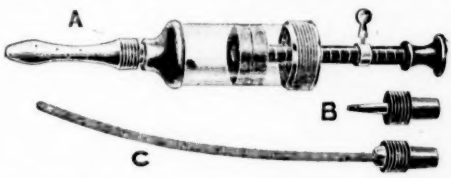
A SPLINT arranged in the following manner I have found very useful, and producing most satisfactory results in the treatment of contraction of tendons.

For a foundation an ordinary straight splint is used, and to one extremity of this a second piece (jointed near the centre) is attached by means of a hinge. This secondary splint may, if it is found more suitable, be made of any soft metal—e.g., lead. The second splint is bandaged firmly to the concave side of the affected part and a tourniquet is then applied round *both* splints over the point of the greatest convexity. The screw of the tourniquet is tightened by one or two turns daily, as the case may require, until the second splint comes to lie flat upon the first. The joint will then be found in the course of a few day, to be perfectly straight and with no tendency to recontraction: that is, of course, unless the contraction is caused by the loss of continuity of an opposing tendon. Instead of a tourniquet an ordinary elastic bandage may be used, the tension with which it is applied being increased daily. An ordinary straight splint is worn for a week or two after the flexion has been reduced. The splint may be adapted to joints other than the knee—e.g., the elbow and phalangeal joints. The splints are made according to measurements by Messrs. Down Bros., 5 and 7, St. Thomas's-street, Borough.

Haverfordwest. CHAS. B. SAVORY, M.D. Edin.

OINTMENT INTRODUCER.

THE instruments in use for the purpose of introducing ointment into the rectum are so far from satisfactory to me that I have designed the one shown in the illustration (Fig. A), which I find fulfils its purpose fairly well. It is made for me by Messrs. Reynolds and Branson of Leeds and possesses the following advantages:—Patients can easily use it for themselves; there is no fear of injuring the anus or the rectum in the introduction; the dose can be regulated; it is easy to fill; when filled it contains a number of doses ready for immediate use. I have added a uterine tube (Fig. C) and also a nozzle (Fig. B) that will fit an ordinary catheter. These are to be had separately and will



recommend themselves to the surgeon. The syringe with uterine tube attached can be used as a suction syringe for the removal of secretion from the cervix uteri prior to medication. JOHN GEO. NEVITT, M.R.C.S. Eng.

Chapel Allerton, Leeds.

THE SOCRATES AUTOMATIC DISINFECTOR.

THIS apparatus consists of the simplest possible arrangement for the diffusion of a definite quantity of permanganate of potash in the water of the flushing cistern. It consists merely of a small tin canister containing crystals of permanganate. This container is to be hung in the flush cistern by a wire or other convenient means of attachment so that the level of the water of the cistern when full is just above the top of the disinfector. The appliance then acts automatically. In an experiment we made we found that as the water in the cistern is drawn off so a definite quantity of strong solution of permanganate is syphoned out of the container. It is a very simple and ingenious appliance and works well. It should be added, however, that a solution of permanganate can have but little effect upon crude sewage, although the presence of a solution of permanganate in the pan of a closet after the contents have been removed cannot be without distinct sanitary advantage. The invention is the property of the Automatic Disinfector Co., 5, St. Martin's-place, Trafalgar-square, W.C.

A NEW TEAT FOR INFANT FEEDING.

AT my suggestion Messrs. Weiss and Son of Oxford-street, London, and King-street, Manchester, have made a feeding-bottle teat of a new pattern which is extremely useful for the rearing of infants; it is also inexpensive, and I hope that it will displace the commonly employed bottle with long tube, which is the cause of so much illness in young children. Its advantages are (1) that it may be affixed to an ordinary dispensing bottle (six-ounce or eight-ounce by preference), and the absolute daily quantity of milk consumed may thus be easily regulated; (2) that it is easily cleaned and can be turned inside out for that purpose; (3) that it necessitates due observance and care of the child whilst being fed; and (4) that it is portable and unbreakable. If there is a good demand its price will not exceed 1*d.* or 1½*d.* The teat is made of black indiarubber and is two and three-quarter inches long. The part which is held in the child's mouth is of the usual shape, but the base has an internal diameter of three-quarters of an inch, so that it will easily fit the class of bottle for which it is designed.

C. H. G. RAMSBOTTOM, M.B., Ch.B. Vict.

Douglas, Isle of Man.

PROPOSED PURCHASE OF THE MID-SUSSEX WATERWORKS.—Consent has been applied for by the Cuckfield (Sussex) rural district council to purchase the concern of the Mid-Sussex Waterworks Company. The district under the council has a population of 12,665 in six parishes, including Haywards Heath and Cuckfield rural. The petitioners pleaded that the company had not carried out the works of supply provided in the Act of Parliament, and some of the parishes being without a supply it was asked that permission should be given to purchase the works under section 91 of the Act, an offer of the council having been declined. Opposition was lodged on behalf of the company, the chairman (Mr. Robus) saying that they had no wish to sell, but would undertake to consider a fair reasonable offer if one was forthcoming.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XXXVI.

Wakley's Fourth Election for Finsbury.—The Brief Opposition of Samuel Warren.—Wakley's Medical Registration Bill.—Its Tenour and Provisions.—Referred to a Select Committee.—Graham Macaulay and Sir Robert Inglis.—Mr. Rutherford's Medical Registration Bill.—Its Fate and the Reason.—The English Homœopathic Association.—The Ecclesiastical Titles Bill.—Wakley withdraws from the Representation of Finsbury.—An Estimate of his Parliamentary Position.

THERE seemed every probability of a contest for Finsbury at the general election of July, 1846, consequent upon the fall of the Peel Government. Peel, having carried the Free Trade measures through the House, had raised up to himself a large number of bitter enemies—the Protectionists, with Lord George Bentinck and Disraeli at their head. They nominally belonged to Peel's party, but were now determined to get rid of him. An Irish coercion Bill gave them the opportunity, for the followers of O'Connell, who had supported Peel in his abolition of the Corn Laws, of course voted against him when such a measure was under debate. Lord John Russell formed a Liberal Ministry and Wakley and Duncombe again offered themselves to their faithful electors of Finsbury. Samuel Warren, author of the "Diary of a late Physician" and "Ten Thousand a Year," suddenly announced his intention of coming forward. The joint committee of Wakley and Duncombe went to considerable expense in the dissemination of election literature, with the result that Warren as suddenly withdrew from his candidature on the ground that owing to the season of the year most of his very influential supporters would be out of town or abroad. Wakley, in addressing his constituents from the hustings, spoke on behalf of "our friend Tommy," as he affectionately termed Duncombe, as well as for himself and attributed Warren's attempt to give trouble to personal motives. He said that Warren had a spite against himself. It is clear that both the old members looked upon any attempt to unseat them as unwarrantable impudence, and that Wakley intended from the first to show the intruder that he would meet with so vigorous an opposition that if he had any private animosity to gratify he would be wiser to find some easier and cheaper design. Warren, of course, came in for general abuse as a member of the legal profession, too many of whom, in Wakley's opinion, already occupied the benches of St. Stephen's. But it was as an author that Wakley poured contempt upon him. He had at that time produced the two books, by which he is still known, and Wakley roundly stigmatised the lurid inaccuracy of the one and the sensationalism and forced humour of the other. He disposed of Warren's hint that he had the support of the aristocratic residents of Finsbury, who were naturally holiday-making in July, by saying that if that gentleman had any influential friends abroad they were probably at Botany Bay. This sally was received with unbounded delight and disposed of Warren's pretensions entirely. No one else being hardy enough to oppose such keen fighters as Wakley and Duncombe they were duly declared re-elected without opposition. As a little matter of curiosity, Wakley was the first man returned to this Parliament in the kingdom.

In the same year he obtained leave to bring in a measure entitled A Bill for the Registration of Qualified Medical Practitioners and for Amending the Law relating to the Practice of Medicine in Great Britain and Ireland. This was his greatest parliamentary work, and its indirect results to the medical profession were of incalculable good. Direct results it had not, for it never became law, but it led to the appointment of a Royal Commission of sound, shrewd, important men, whose deliberations resulted in the Medical Act of 1858.

Wakley's Bill was short and exceedingly clear, and the gist of it was to ensure that there should be accurate registration of the whole profession, with strong penal powers capable of being set in motion against pretenders. It was, in fact, a Bill against quacks. It provided for the appointment of a registrar for each of the three divisions of the United Kingdom. It specified that his duties were to make within thirty days of the passing of the Act a list of all the members of the profession properly qualified in his division of the United Kingdom, whether by degree, diploma, certificate, or licence. To this list were to be added as fit subjects for registration all persons who had been in actual practice as an apothecary since 1815, and all surgeons and assistant-surgeons of the army, navy, or Honourable East India Company. In accordance with such official lists, which were to be entitled the Medical Registers for England, Scotland, and Ireland respectively, certificates were to be issued annually to all the names included at a fee of five shillings. Every person thus registered was to be entitled to practise in that division of the United Kingdom where his certificate was issued and to charge for visits and attendance and to recover such charges, as far as they were reasonable in any court of law, with full cost of suit. He was to be exempt from serving on juries. None but registered persons were to be thus privileged, and clauses provided for the summary punishment of unregistered practitioners, whether detected practising without a qualification or with a qualification obtained by irregular means, while it was also made penal to falsely pretend to possess a qualification. The recovery of the penalties was simple and swift. The purification of the register—that is to say, the honour of the profession—was to be left in the hands of the various universities or corporations whose graduates or diplomates composed the profession. The three registrars were merely officers bound to register persons who possessed certain qualifications and complied with the regulations of the office by proving their ownership of the same and paying their fees. A name once on the register could only be removed by the authorisation of the body from which its owner derived his qualification. The professional crimes which, if proved, warranted such authorisation were specified as "conduct calculated to bring scandal and odium on the profession by publishing indecent advertisements or pamphlets or immoral or obscene prints or books ..... or any other disgraceful and unprofessional behaviour." The names of convicted criminals could be erased by the registrars.

With regard to medical education Wakley saw that a Bill which proposed to "distinguish between legally qualified physicians, surgeons, and apothecaries and mere pretenders to a knowledge of medicine and surgery"—as his preamble bluntly put it—must enact that proper tests should be applied to the candidates for a position on the register, lest the distinction between those included in and those excluded from the official lists should be one without a difference. After repealing the enactment requiring five years' apprenticeship to an apothecary (55 Geo. III, cap. 194, s. 15), Wakley's

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., XIX., XX., XXI., XXII., XXIII., XXIV., XXV., XXVI., XXVII., XXVIII., XXIX., XXX., XXXI., XXXII., XXXIII., XXXIV., and XXXV. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, 16th, 23rd, and 30th, June 6th, 13th, 20th, and 27th, July 4th, 11th, 18th, and 25th, Aug. 1st, 8th, 15th, 22nd, and 29th, and Sept. 12th respectively.

Bill enacted *a scheme of uniformity of education, qualification, and fees throughout the kingdom.* No details were suggested, the proposer knowing that the various views of the numerous bodies granting medical qualifications would have to be heard on the subject, but the principle of one portal to the medical profession, by which all practitioners were placed upon one level at the commencement of their careers, was strongly insisted upon. The duty of keeping the various bodies up to the proper educational standard by inspection and supervision of the examinations was to be confided to one of the State departments.

Petitions flowed in at once both for and against the Bill, the vast majority being in its favour. The better class of the general practitioners saw in the measure an immense raising of their standard, for, should it become law, unfair competition between the men who had properly qualified and those who had not would cease, many quacks would find their proceedings illegal, while the proposal to make the examinations of similar stringency at all the different examining boards would do away at once with a source of frequent heart-burning within the ranks of the profession. In spite, however, of the popularity of the measure with the class whom it was designed to benefit, Wakley found that he was not able to get his Bill adopted by the Government, he therefore acquiesced in the suggestion that a Select Committee of the House should inquire into the subject. This may not seem a very great advance on the road towards medical reform. Twelve years ago Mr. Warburton had secured the appointment of a Select Committee with a somewhat similar reference,[2] but no legislation had followed upon the recommendations of that deliberative body. It is true that Sir James Graham had taken charge of a medical Bill framed to some extent in accordance with those recommendations, but he had been compelled to abandon it, finding it impossible within the scope of one measure to please all the governing bodies of the various institutions concerned as well as all their commonalties whose interests, unfortunately, were too often not identical with those of their rulers. Still Mr. Warburton's Committee had done good work, and had let a flood of light in upon many dark corners, thereby facilitating future reform in every direction. Wakley, ever sanguine and ever practical, refused to look upon the check as in any way a defeat, but wrote hopefully in THE LANCET that the Select Committee would do their best to arrive quickly at certain unanimous recommendations, such as could be transformed into law without debate or alteration.

The Committee consisted of twelve persons, among whom the most important, both from their weight in the House and their knowledge of the subject, were Sir James Graham, Macaulay, Wakley, and Sir Robert Inglis. Graham had all the evidence of the last Committee at his fingers' tips; Macaulay was the ablest committee-man of his time, absolutely untiring and resolutely critical; and Wakley was a model expert upon the subject, for inasmuch as every movement towards medical reform had been engineered in his paper while a large proportion of them owed their origin to his brain, he knew exactly which were the true and which were the spurious grievances, which were the concessions that the governing bodies or the commonalties ought to make, and which were the principles that they must be allowed to maintain. Sir Robert Inglis was the steady, consistent, and recognised champion of the Church of England. A Political Alphabet, published some time in the forties, by James Catnach, the celebrated Seven-Dials printer, "for the rise and instruction of juvenile politicians," thus describes him:—

> I is Bob Inglis, a chap for to pray,
> Who'd not suffer one on the great Sabbath Day
> To eat, drink, or sleep, talk, whistle, or sing,
> The cat say moll-row, or the ladies lay-in.

[2] See Chapter xxx. of this Biography.

His presence on the Committee greatly strengthened it in popular esteem.

The Committee commenced their sittings on June 4th, 1847, with Macaulay as chairman, by taking the evidence of Dr. John Ayrton Paris, the President of the Royal College of Physicians of London, and sat from that date with the greatest regularity until February, 1848, when a new Committee was formed, which included Wakley and Inglis, but not Macaulay. This body sat until July 4th, 1848, under the chairmanship of Mr. Rutherfurd, the Lord Advocate of Scotland. During this time representative members of all the qualifying bodies were examined at length, as well as known advocates for reform in these bodies, and those who are curious to read the evidence will find it reprinted at great length in THE LANCET.[3] The thoroughness of the cross-examination to which many of the witnesses were subjected is extraordinary, and of all the questioners none was so close as Wakley. Years of writing on the subject from every conceivable point of view had caused him to be conversant with all the doubtful points that might arise in any man's evidence as soon as the explanation of the witness's position made it clear why he had been summoned, and in most cases Wakley knew the true answer to his queries and was, therefore, not to be put off with anything less. He was at the same time very generous where matters of opinion and not matters of fact were at issue.

All the proceedings of this Committee were a personal triumph for himself and he knew how to behave well in the hour of victory. Had his Bill eventually became law he would have hardly secured so much prestige in the medical profession as he did by the course which events took. Had his Bill been discussed in the House he would have made certain speeches to defend its principles and many of its details that were sure of attack, but he would have been dealing with laymen. The medical profession, recalling that his attitude towards the heads of the corporations had been relentlessly antagonistic, would have always desired to know what the other side had to say. Before the Select Committee the other side attended and said what they could, almost every word justifying Wakley's strictures. It has not been given to many agitators to enjoy the supreme pleasure of a triumph like Wakley's, when it became his duty to his Queen and country to cross-examine the Presidents of the London corporations concerning their methods. Twenty-one years previously—only twenty-one years—Wakley had formulated certain complaints against the College of Surgeons. He had addressed meetings and had ensured the passing of resolutions, but no concessions from the Council to the members had followed. The invariable line of the authorities towards the leader of the movement for reform was one of concentrated contempt. He was expelled from hospitals and spoken of as a self-seeking and libellous adventurer. Sixteen years before—only sixteen years—he had been violently assaulted in the theatre of the College in an attempt by Bow-street runners to throw him into the road. His offence was that he desired to know what, if anything, those authorities were going to do to remove a certain slur upon the reputation of one branch of their members. Now he sat to hear what they had to say in response to a movement for reform in medical education and in the methods taken to protect the material and social interests of the profession. These matters had been left to their care; and their evidence, while given for the instruction and assistance of the Select Committee, was virtually an account of their stewardship. Wakley could, indeed, afford to couch his questions in an amiable tone, for every sitting that he attended must have reminded him of his rapid passage from the contempt of these witnesses to their hatred, from their hatred to their

[3] THE LANCET, vol. ii., 1847, vols. i. and ii., 1848, vol. i., 1849, passim.

fear, from their fear to their respect, and from their respect, in many cases, to their friendship.

The outcome of this Committee was like that of the previous one in direct legislation. On Friday, May 4th, 1849, the Lord Advocate stated in the House that a measure with reference to the registration of duly qualified practitioners in medicine and surgery was in preparation and that he hoped to lay it upon the table in eight or ten days. But the Lord Advocate had awkward people to deal with, as poor Sir James Graham had previously found. The corporations and certain bodies leagued together to bring about what each considered to be the one necessary reform, or series of reforms, could not be got to agree, and without some general gratification of the medical profession a Bill having for its object the welfare of the profession was destined to fail. It should here be brought to memory that some six years previously—namely, on Sept. 14th, 1843—the College of Surgeons had been granted a new Charter, the Charter under which it now exists. This Charter was to many mouths which had opened their lips for bread a veritable stone. The demand for reform which had been led by Lawrence, and later by Wakley, had only produced the creation of a superior class within the commonalty of the College—the Fellows, to whom alone, instead of to the members at large, was granted the privilege of choosing the council or ruling body. The Council could, it is true, be no longer called a self-electing junto, and to this extent the new Charter was an improvement upon that granted forty years previously, but the mass of the College were as far off as ever from having a voice in their own government. This had caused great dissension, greater indeed than ever, because disappointment was now added to a sense of wrong, and a large number of members joined a body called the National Institute of Medicine which promised with some pomp "to embrace all persons possessed of any recognised qualification or licence," and proposed later to afford medical education and to examine and grant diplomas. This body, badly managed, with no sufficient reason for its existence, no enlightened leaders, no definite programme, and no scrupulous morality in tactics, objected to Wakley's Bill, which did not provide for the incorporation of its associates, and later objected to the Lord Advocate's Bill for the same reason. The Society of Apothecaries wanted no legislation that deprived them of their monopolies. The College of Physicians of London desired no change at all, its only movement being one of jealousy towards the University of London, whose medical faculty was rapidly becoming important. The College of Surgeons mainly stood out against the foolish pretensions of the National Institute. With such a set to please it can hardly be wondered that the Lord Advocate should abandon his Bill. Nor can it be wondered at that ten years elapsed before any real reform took place. When that reform came it came in the shape of the Medical Act of 1858. This Act adopted Wakley's registration clauses almost entirely, and got over the inherent difficulties of pleasing all the views of all the bodies concerned by the creation of a General Council of Education and Registration whereon each body should be represented. Its penal clauses, however, were not so simply and directly stated as in Wakley's Bill—indeed, at the present moment few men can say for certain what are the disciplinary powers of the General Medical Council—while its aim was more altruistic and broader. Wakley's was primarily a Bill against quackery and for the general practitioner. The Act of 1858 was designed to define and consolidate the interests of the medical profession, and its attitude towards quackery was less an integral part of its claim for attention than were its educational promises and its provision for official and administrative routine.

Wakley's career in Parliament was now nearly at a close. He spoke in favour of Lord Harry Vane's Coroners Bill in 1851, the main provision of which was that coroners should be paid by fixed salaries instead of by fees. He also defended his son, Mr. Henry Membury Wakley, the Deputy-Coroner for Middlesex, from an attack made upon him by Lord Robert Grosvenor at the instigation of a body known as the English Homœopathic Association, of which his lordship was the president. Lord Robert Grosvenor wanted the discretion of the coroner to appoint a deputy to be taken from him, because, he alleged, this deputy was incompetent. Wakley hit his old foe without the gloves, denouncing the association as "an audacious set of quacks" who had only brought forward this trumpery accusation that they might advertise themselves in the House, and as "noodles and knaves, the noodles forming the majority and the knaves using them as tools." He then read a declaration signed by twelve of the jury to the effect that Mr. Henry Wakley had performed his duty on the particular occasion complained of in an able and impartial manner. Hume called attention to the fact that the appointment of Mr. Henry Membury Wakley as deputy coroner had been duly confirmed by the Lord Chancellor, and the matter was allowed to drop.

In the game of political manœuvring and the shriek of popular turmoil that were played and roared round the question of ecclesiastical titles in the latter part of 1850 and during the whole of 1851 Wakley did not take a prominent part. He followed Lord Stanley as far as Lord Stanley took a lead, but he was not the sort of man to be whirled off his balance by shouts of No Popery, any more than he was the sort of man to condone in the Pope or any other foreign ruler, temporal or so-called spiritual, acts of aggression that could not be laughed at as meaningless pretence. Lord John Russell treated the appointment by the Pope of Cardinal Wiseman to the Roman Catholic See of Westminster as a serious menace to the British constitution and sorely tried his followers by so doing. His language inflamed the people and gave them a right to expect an immediate measure forbidding the practice of naming Roman Catholic sees with English names, while his party position in the House did not allow him to feel sure of being able to pass any measure of practical use that would prevent the Roman Catholics from doing as they liked. The day of religious persecution was gone by, and, just as all thinking people had recognised the fact, Lord John Russell, with the authority lent him by his premiership, introduced an Ecclesiastical Titles Bill which was a piece of petty persecution. Wakley followed in the lead of Tories and Peelites alike and denounced the measure as idle and out of date. One of the loudest voices on the same side was that of John Sadleir, who, by virtue of his unrestrained and furious denunciation of the anti-Catholic party, earned for himself the unthinking confidence of a section of his countrymen. This confidence he utterly betrayed, and sought death at his own hand rather than face those whom he had defrauded and ruined. At the inquest Wakley as coroner was confronted with the body of his old political foe and there and then formally recognised it as the corpse of John Sadleir, about which primary point there was some uncertainty.

The Ecclesiastical Titles Bill was the last question of prime importance in the political world upon which Wakley spoke in Parliament. Lord John Russell, after being defeated in the House, returned to office because no one else was in a position to form a Government; but during that uncomfortable twelve months of sufferance Wakley only said a few words on general reform topics. In 1852 Lord John Russell resigned and Lord Stanley, now become Lord Derby by the death of his father, was sent for by the Queen. Wakley refused to stand for Finsbury again. He never gave any reason to his constituents save that his time was too much occupied to allow

him to have the honour to represent them, but he had a very good one. The terribly laborious life that he led as coroner for Middlesex, as regular attendant at the House of Commons, and as Editor of THE LANCET, was telling seriously upon his health. For fifteen years he had worked with relentless energy. He had spoken and written volumes, he had driven literally thousands of miles to hold courts. His family and his friends alike pointed out to him that it was impossible for him to continue such a career of persistent over-pressure without incurring a risk that amounted well nigh to a certainty of breakdown. He was reluctant to listen to their suggestions for his retirement, which in the first instance were only designed to be temporary, but a serious collapse awoke him to a sense of the value of the advice that had been given him, and he issued a short farewell letter to his constituents, begging them to return another Radical in his place, and thanking them for their loyal support during fifteen years of political life. His announcement was received with loud regret by his constituents, and by the general reform party whose policy he had so emphatically and unswervingly supported and not infrequently helped to dictate, while by many political foes his retirement from parliamentary life was alluded to on the hustings as a distinct loss to public affairs and to the domestic life of the House of Commons.

Wakley's career in Parliament was an unmitigated success. It was never crowned by office, but this he never expected, having openly declared that he would serve no party but only his conscience and the constituents who had chosen him to represent them. This sort of independent member rarely turns out worthy even of comment. He is almost invariably a political crank, an unmanageable and difficult man, one who, in his anxiety to escape being an accessory to the selfishness of party, erects into a fetich, with much more exclusive selfishness, every little idea of his own. Wakley had nothing in common with these aggressive nuisances. He was the most adaptable and obliging private Member that it is possible to imagine about all small things. In large things he followed a very clear and well-defined policy of the Radical sort, moulding his actions upon the notions of useful reform that had been developed in him by his early intolerance of the hapless condition of the medical profession when he first joined it. As then all his plans and movements were designed to help the rank and file against the oppression of their rulers, so later in Parliament every public act or word of his had for its object the betterment of all classes who were unable to better themselves. Grievance-hunter he might be called, agitator he certainly was, but in general and medical politics alike he was always on the side of those whom he conceived to be oppressed, while his methods for their relief at the same time displayed enthusiasm and sincerity, always tempered with good sense, knowledge of the world, and general sympathy. If the story of his Parliamentary career has been rightly told it should need no summary to help in its comprehension. Wakley can be absolutely judged by his words and deeds. But the evidence of an eye-witness and contemporary thinker may be with advantage added, that the reader may learn what was the opinion of thoughtful men of Wakley as an orator and a democratic force, and may decide how far the tale as it is here told in 1896 bears out the estimate formed just fifty years before. The following description of Wakley in the House of Commons from the pen of Mr. H. Francis appeared in *Fraser's Magazine*, and was afterwards published with similar essays in a volume entitled "Orators of the Age":—

Mr. Wakley as a speaker in the House of Commons is more distinguished for shrewdness and common sense than for any of the higher accomplishments of the orator. A plain, simple, blunt, downright style disarms suspicion and bespeaks confidence, even at the outset of his address. A manly frankness both in his bearing and delivery, precludes the idea of any preparation or of any design to entrap by means of the ordinary tricks and contrivances of the practised debater. He has a brief, conversational manner, as though his thoughts were quite spontaneous and not the result of preparation. He seems to be thinking what he shall say next, as if the subject came quite fresh to his mind and he were, by a sort of compulsion, drawing as much truth out of it as he could. This gives both freshness and vigour to his speeches. By his singular shrewdness and common-sense, his perfect command of temper, his good-humoured irony, his store of information, available at the moment on almost all subjects, he has acquired an amount of influence in the House disproportioned to the demands of his position. He has inspired much confidence in his judgment, and by an original, because an unfettered, turn of thinking he contrives to strike out new views of the subject before the House and to supply materials for thinking or debating out of what seem to be threadbare themes. This is the consequence of the original turn of his mind and the independence of his position.

He has no party ties; he has received no training; he has no class prejudices such as obtain influence in the House of Commons; but has been a shrewd and constant observer of human nature in all grades and is not burdened with an overpowering sense of immaculate purity of public men. Still, you never hear from him those coarse charges of personal corruption against individuals which will often fall from Mr. Duncombe, notwithstanding his gentlemanly manners and superficial refinement. Broad as his insinuations sometimes are, there is a degree of delicacy in the phraseology in which they are clothed; and though he often indulges in a sarcastic humour it seldom or never carries a venomous sting. Although a very harsh and uncompromising popular advocate, determined in his exposure of public abuses and still more in his championship of the neglected poor, he shows a gentlemanly respect for the forms and restraints which experience has rendered necessary in debate and a forbearance to press charges to useless extremities of personality. If he has not quite conquered the prejudices entertained towards Ultra-Radical intruders by men of birth and station he has at least made them feel his intellectual power and acknowledge his moral equality. In this respect he has done more to advance the interests of the millions by making their advocacy respectable than have many more flashy and showy popular leaders. His style of speaking is the most simple and unaffected. He has been too busily engaged in the hard work of life to have had much time to bestow on oratory. The structure of his speeches is quite inartificial, and the language usually the most simple and colloquial of every-day life. It is plain, even homely, without being inelegant; a manliness of sentiment and a quiet self-possession in the speaker imparts a kind of dignity to the most ordinary expressions. There is breadth and force in his argument and declamation; and a rough pathos in his descriptions of pauper suffering which is often far more stirring and affecting than the most accomplished eloquence of more finished speakers. Mr. Wakley does not so much make speeches, as deliver the thoughts which burden his mind on any given subject with frankness and sincerity. Even hard words do not come offensively from him, such is his good humour and the amenity of his disposition. He constantly displays great shrewdness of perception, unmasking the motives of opponents with a masterly power and, at the same time, with an avoidance of coarse imputation. Yet he can be sarcastic when he chooses; but his sarcasm is more in the hint conveyed and in the knowing look of face and tone of voice than in any positively cutting expressions. He handles the scalpel with delicacy and skill, never cutting deeper than is absolutely necessary. Some of his points have, from time to time, told remarkably well; such, for instance, as that in which he described the Whig Ministry as being made of 'squeezable" materials. That one expression contributed considerably towards gaining for him the position he holds in the estimation of the House of Commons.

Mr. Wakley has extraordinary energy both physical and mental. To see him bringing up his portly, bulky frame along the floor of the House of Commons, with swinging arms, and rolling almost rollicking gait—his

broad fair face inspired with good humour, and his massive forehead set off by light, almost flaxen hair, flowing in wavy freedom backwards around his head, and the careless ease of his manly yet half-boyish air, as though he had no thought or care beyond the impression or impulse of the moment; to watch the frank, hearty goodwill with which he greets his personal friends as he throws himself heedlessly into his seat, and interchanges a joke or an anecdote, or perhaps some stern remark on the passing scene, with those around; then, in a few minutes afterwards, rising to make, perhaps, some important motion, laying bare some gross case of pauper oppression, or taking up the cause of the medical practitioners with all the zeal of one still of the craft; to witness the freshness and vigour with which he throws himself into the business before him, you would little guess the amount of wearying labour and excitement he has already gone through during the day; yet he has perhaps been afoot from the earliest hour, has perchance presided at more than one inquest during the morning, listening with a conscientious patience to the evidence, or taking part, with an earnest partisanship, in the case; then off as fast as horses could carry him down to the committee-rooms of the House of Commons, there to exhibit the same restless activity of mind, the same persevering acuteness, the same zeal and energy; and after hours, perhaps, spent in this laborious duty, rendered still more irksome by a heated atmosphere and the intrigues of baffling opponents, returning home to accumulate the facts necessary for the exposure of some glaring abuse in the Post-office or the Poor-law Commission, or to manage the multifarious correspondence which his manifold public duties compel him to embark in. Yet such is often the daily life of this hard-working man: he is absolutely indefatigable; nothing daunts him, nothing seems to tire him.

(To be continued.)

AN OUTBREAK OF THE EPIDEMIC SKIN DISEASE IN THE HOLBORN WORK-HOUSE: IS MILK A CAUSE?

IT has often been remarked with truth that unless a disease is suspected it is rarely found, and it so happens in the case of the Epidemic Skin Disease that prior to 1891 this malady was not heard of. But are we, therefore, to suppose that it did not exist? Probably it did, but it is only since its differentiation from pityriasis rubra and eczema by Savill in that year[1] that the disease has attracted attention; and cases have been observed every summer and autumn, generally in workhouses and infirmaries, but sometimes also in hospitals and sometimes sporadically in private practice. These latter and the smaller of the epidemics may have been overlooked, probably by being classed with ordinary eczema. However, by the courtesy of the medical officer, Mr. Shelswell, we are supplied with a few particulars of a small but instructive outbreak which recently occurred in the Holborn Union Workhouse situated at Mitcham.

The workhouse proper accommodates 1046 inmates and has connected with it a small infirmary with sixty-six beds, of which an average of about fifty are occupied at this time of year, quite isolated from the workhouse buildings, and situated at the extreme corner of the grounds. In April last one of the male inmates of the workhouse aged seventy-eight years, who had suffered from the same skin disease during three previous summers, again developed the eruption. He was promptly moved over to the infirmary and placed in a separate ward. After this a series of nine cases arose in succession during the ensuing three months in the different wards of the infirmary, and seven other inmates of the workhouse proper also became affected in succession during the same period of time. All the cases presented in varying degrees the same clinical features characteristic of the disease. The slighter ones resembled eczema very much, excepting the very marked symmetrical distribution, the exfoliation, and the fact that the groups of papules lying outside the crimson patches were arranged in markedly stellate groups.

It is worthy of note that these cases appeared in succession after the manner of infectious diseases, and the outbreak, though a small one, is particularly interesting in reference to the theory that milk has a causal relationship with the disease, a view which is chiefly accepted in official quarters. It relies for support mainly on the fact that in the outbreak at the Shoreditch Infirmary in 1894, where over 60 cases arose, only those whose diet contained milk were attacked, while those who took no milk excepting what was in their tea for the most part escaped. Now, in the present instance none of the inmates of the workhouse were given milk excepting the small quantity in their tea, which is generally issued to them at a boiling temperature. The man who was the first to develop the disease was an inmate of the workhouse and had no other milk than this, and the 7 other cases which arose in the workhouse were on dietary similarly exempt from milk. On the other hand, all the inmates in the infirmary have milk as part of their dietary, and of these 9 were attacked. It might be urged that the attack-rate among the infirmary inmates (9 out of about 100 exposed during four months) who partook of milk is higher than the attack-rate among the workhouse inmates (8 out of about 1400); but, on the other hand, the man who first showed the disease was not on milk, and 8 others out of a total of 17 cases were also not on milk. The disease is known to attack by preference those who are broken down in health, such as the infirmary inmates would be, and in view of all the facts it would certainly seem as though the milk did not in the Mitcham outbreak assume any causal relationship with the disease. Savill has always maintained that the disease is due to an air-borne infection, and certainly the importation into, and the mode of spread within, the infirmary building in the present instance would support that view. More males were, as on previous occasions, attacked than females (12 and 5 respectively out of a total of 17 cases). No deaths occurred among them, though two or three were very seriously ill.

The question how the first case contracted the disease is interesting, it being possible that the germs from his former attacks in the previous years had lain dormant in his clothes. The workhouse buildings are admirably arranged from a sanitary point of view and are surrounded almost on all sides by fields. In this same workhouse 5 cases of the same disease occurred in the summer of 1895 and 3 in 1894, and it seems, from information before us, that many such institutions could show similar records if those in charge suspected and were, so to speak, on the look out for the disease. If this were so, much light might be thrown on this important and often fatal disease.

[1] THE LANCET, Dec. 5th, 1891, p. 1279.

THE SOUDAN CAMPAIGN.

NOTWITHSTANDING the number of unforeseen adverse circumstances with which the Nile expeditionary force has been assailed the advance on Dongola has now entered upon an acute stage, and it may be confidently expected that the next few days will prove eventful. The force has already had a sharp cavalry skirmish with the Dervishes. In addition to the outbreak of cholera, the heavy storms and rainfall interrupting the newly laid railroad, and a succession of dust storms, the new steel gunboat—on which so much anxious labour had been bestowed and from which so much was expected—has been disabled owing to the explosion of her low-pressure cylinder boiler. The unexpected is that which so frequently happens, especially in the conduct of campaigns, and expeditions must be content to take the rough with the smooth. It must be confessed that the Nile Expedition has had to encounter a series of difficulties little short of disastrous. The weather is now, however, cool and very healthy, the river transport service is working admirably, supplies are abundant, and the troops themselves are in good fettle and in excellent physical condition for the work before them. As regards the strength of the Dervish forces and the amount of opposition that may be expected we really know very little, but we shall soon learn now.

So far as we can gather from various sources the hospital and sick transport services are working well and the medical officers of both the British and Egyptian forces have displayed great zeal in making and carrying out their arrangements. They have had so far an anxious and trying time and have acquitted themselves admirably.

The cholera epidemic in Egypt is declining and it is expected that by November or December it will be altogether over. The mortality, according to the latest accounts, had fallen from 2000 to 600 throughout Egypt.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 19, 1896.

THE report of the Royal Commission on Vaccination was issued on the 14th instant, and we are now able to comment on the conclusions and suggestions which have been arrived at. The first point which stands out prominently is the absolute unanimity of the Commission on the great question as to the protective influence of vaccination against small-pox. Not a single member of the Commission, including those who represented the anti-vaccination party, can deny this influence; all that the two most advanced opponents can urge or imply—for they fail to prove it—is that other public health measures ought to be accorded a higher place in the prevention of small-pox and that too much credit is given to vaccination in this sense. On the other hand, all but these two Commissioners are unanimous in setting out, in the form of an elaborate judgment, their firm belief and assurance to the effect that vaccination, and nothing less than vaccination, must be credited with the diminution in the amount of deaths from small-pox during the present century; with the relative freedom of the vaccinated as compared with the unvaccinated from fatal small-pox; with the special freedom from both attack and death from small-pox amongst vaccinated children as contrasted with the terrible incidence of and fatality from the disease amongst unvaccinated children; and with the remarkable immunity from small-pox amongst re-vaccinated persons. In this way the main contention of the medical profession is more than upheld; it is confirmed in language so strong as to leave no loop-hole for doubt; and, acting on their confident belief of the value of vaccination to the community at large, the Commission, in proceeding "to sum up the evidence bearing upon the question whether vaccination has any, and if so what, protective influence in relation to small-pox," declare that unless vaccination be accepted as the explanation of the control of small-pox which has taken place since JENNER'S days then the whole subject remains "an unsolved mystery." Indeed, they are definitely of opinion that "the State ought to continue to promote the vaccination of the people," and the recommendations which they make are professedly based on the desire to secure a more general acceptance of vaccination by the people. How far this object is likely to be obtained remains to be seen.

Before we discuss this we would express our satisfaction that the scientific opinions on vaccination which have been always held by the medical profession as a whole, are, as already implied, so fully sustained; and in the face of this mark and stamp of approval to which the Commission have deliberately affixed their seal we can well afford to allow the legislators to vary our present system of vaccination so long as its principal object is not defeated, and to watch the effect of any changes they may see fit to make. We maintain, as we always have done, that vaccination is the sole protection which can, under the circumstances of our present means of livin afford protection against epidemic small-pox; the Commission endorse this view, and our position being thus absolutely endorsed we are prepared, if political circumstances demand it, that there should be provided in some form or other such object-lessons for the public as the one which has, almost with the suddenness of the magician's rod, turned unvaccinated Gloucester into one of the "best-vaccinated cities" of England. We shall deplore the results which must fall on the children of ignorant parents, but if we do our utmost to prevent mischief in connexion with future legislation we shall have relieved ourselves of all responsibility for the maiming and slaying which falls so heavily and so disastrously on the unfortunate offspring of those who, as regards capacity of intelligent reasoning, can certainly not be regarded as affording an example of "the survival of the fittest."

In resuming consideration of the report of the Commission, let us now see what the Commission have to say concerning any other measure which, according to the anti-vaccination party, ought to be credited with the admitted diminution of small-pox attack and death amongst the recently vaccinated as compared with the vaccinated. The principal contention was that the advance in public health measures accounted sufficiently for the diminution in small-pox death; but the Commission, after careful discussion of the question, put it aside as not affording any approach to an explanation of the results obtained. Why have public health measures not protected the unvaccinated children at the same time as the vaccinated? How is it that the diminution in death from small-pox amongst the vaccinated has been so specially amongst those who have within some ten or twelve years been submitted to vaccination? Why has infantile small-pox amongst vaccinated infants been practically abolished, whilst at the same time unvaccinated infants in Leicester and other towns still suffer so exceptionally from that disease? Why, again, does post-vaccinal small-pox attack people in adult life when the influence of their infantile vaccination is on the wane? Do not these adults experience the advantage of the sanitary measures, which, according to the anti-vaccinationists, are protecting the vaccinated infants? How is it that, under improved sanitary circumstances, typhus fever nurses always contract typhus fever, and re-vaccinated small-pox nurses are protected against small-pox? These and numerous other points are discussed with great care and at great length; and in the end the Commission definitely announce, on the question whether the falling-off of deaths from small-pox since the introduction and enforcement of vaccination is due to improved sanitary circumstances, that the contention of anti-vaccinationists "is not the case"; whereas they go on to say as regards small-pox amongst the vaccinated and unvaccinated that "it would be only reasonable to attribute this difference to vaccination." They also explain that in towns where they investigated the circumstances of small-pox prevalences for themselves there was "nothing to distinguish the two classes from one another" apart from the one question of vaccination.

The Commission naturally attach importance to their

own investigations as to the influence of small-pox on the vaccinated and the unvaccinated; and they give many pages of statistical details as to the small-pox prevalence in Gloucester, Sheffield, Warrington, Dewsbury, London, and Leicester, most of which towns were visited and reported on by their own staff. And in the end they announce that dealing with 11,036 attacks of small-pox, the small-pox rate of fatality on 2297 unvaccinated was 35·6 per cent., whereas amongst the 8739 vaccinated persons the fatality rate was only 5·2 per cent.; and under ten years of age the rate amongst the vaccinated was only 2·7 per cent., as contrasted with 36·2 per cent. amongst the unvaccinated at the same age-period. "How is this to be accounted for?" they ask. One answer was that the sickly remained unvaccinated, and that the sickly are more liable to receive small-pox than the healthy. This, the Commission declare, does not explain the extraordinary disparity, and yet "some circumstance must have existed distinguishing the class selected as vaccinated from that selected as unvaccinated." Take Warrington, for example, where, as the report states, "no vaccinated child under ten years of age" was even "attacked by small-pox," whereas out of ten unvaccinated children attacked eight died. What is the reason of this? "If," answer the Commission, "it be conceded that there is virtue in vaccination ..... the phenomena are all explained and the difficulty vanishes."

They then go on to discuss the value of re-vaccination, especially amongst persons who, as hospital nurses and attendants, are much exposed to the influence of small-pox; and again they can find nothing to explain the immunity of the one class as contrasted with the special incidence of small-pox on the other class, except that the former have been successfully re-vaccinated and the latter have not. "Re-vaccination," they say, "restores the protection which lapse of time" since an infantile primary vaccination "has diminished." Then they examine the facts as to whether, amongst the vaccinated, the protection against small-pox varies according to whether one or four vesicles covering less than, or at least half, a square inch have been produced, and they find that "there is a marked contrast between those with four or even with three marks as compared with either one or two." If vaccination be of no value, how can this be explained? We need not seek an answer, for not even the two dissentients to the report make any attempt to explain it. In fact, on the main question at issue the judgment formulated by the Commission, and which is compiled on strictly legal lines, is a masterly argument setting out the value of vaccination as the sole protection against small-pox in which the nation can trust, and its first conclusions as to vaccination are: that it diminishes the liability to be attacked by the disease; that the protection it affords is greatest during the years immediately succeeding the operation of vaccination; and that though after the lapse of some nine or ten years the protective potency diminishes, it still remains considerable "and possibly never altogether ceases." This is the verdict following on a seven years' exhaustive trial; it is that for which we have contended, and it cannot do otherwise than appeal powerfully to the nation.

AT the present season many opinions on the holiday question naturally find vent in different quarters, and it is curious to note the discrepancy of view which seems to prevail. One writer recommends one long holiday, while another thinks a short holiday two or three times in the year preferable. One dwells on the importance of fresh air and change of scene, another thinks that sight-seeing is to be carefully eschewed and that a fortnight in bed would be for some people quite the most excellent form of holiday. Some go the length of arguing that the whole holiday custom is a mistake, that it entails much worry, fatigue, and expense for no adequate return, and that it commonly leads to a relaxation of moral and physical fibre, an unworthy indisposition for work, and even an increased proclivity to disease. It is impossible to read these jeremiads without being struck with the deep tone of disappointment which underlies them or without perceiving that to a large number of people the annual holiday fails to bring that pleasure and physical and mental refreshment which might be fairly expected. It may not be amiss to inquire whether the custom itself is at fault or whether its misuse or abuse may not be responsible for the pessimist language in which so many of our contemporaries describe their holiday experiences. It has been said with considerable truth that all questions are ultimately questions of finance, and we suspect that much of the disappointment arising from the average holiday has its origin in financial consideration. To travel pleasurably means in the great majority of cases to travel expensively, and although there are exceptions to the rule travel on strictly economical lines can be seldom recommended. No doubt there are persons of frugal mind who take a genuine pleasure in seeing the world at a minimum of cost, but the experiment is not one to be lightly undertaken except by those who have had experience enough to know what is in store for them. GOLDSMITH travelled over a considerable part of Europe earning his food and his night's lodging by his musical powers, but few nowadays will emulate his example, nor will the finest scenery or the most interesting architecture make amends for the discomforts of inferior accommodation in hotel, train, or steamboat. To travel with real satisfaction there should be no pecuniary anxieties, and the traveller should be able to secure ample comfort without the disagreeable necessity of scrutinising his hotel bill or entertaining fears about the state of his cash balance. The best plan, it seems to us, is for the intending tourist to determine how much money he can conveniently afford, to arrange a tour well within the possibilities of this sum, and then to spend it freely and ungrudgingly. Most experienced travellers will agree that it is impossible to travel through Europe satisfactorily at a less figure than £1 per head per day, but that in most cases this is an ample allowance for the ordinary tourist.

Financial questions having been adjusted the next indispensable condition of a successful holiday is to arrange it with due regard to the necessities and physical powers of the individual. We by no means deny that there

are some harassed and overworked people to whom a few quiet days of absolute physical and mental rest in bed might be a very desirable form of holiday, but such cases are, we hope, the exception. We think that for the overworked class a yachting cruise or short sea voyage possesses many advantages over bed, and forms, perhaps, the very best practicable holiday, provided there be no special proclivity to seasickness. A sea voyage under favourable conditions combines rest with passive motion, repose with change of scene, relief from work and worry with agreeable companionship in a way that hardly any other form of holiday can rival. Especially is this form of holiday to be commended to those of advancing years, to whom fatiguing holidays are altogether unsuitable. Men of active habits, sound in wind and limb, and still on the sunny side of fifty, may fairly undertake the more arduous forms of holiday, such as mountaineering or rapid foreign travel, but it must be clearly understood that these involve a very considerable amount of physical strain and are quite unsuitable for habitual sedentary livers, for those unaccustomed to exercise, and for those advanced in years. Mountaineering especially, though to the expert one of the most delightful and healthful of amusements, should be attempted very guardedly by the novice and should not be begun after middle life. A severe ascent attempted without adequate training is only too likely to lead to extreme exhaustion, dilatation of the heart, and perhaps permanent injury to that organ. Cycling is now one of the most popular forms of holiday, and undertaken in moderation is both safe and pleasurable. It lends itself, however, very readily to abuse, and long journeys, excessive fatigue, and the maintenance of a high rate of speed should be strongly condemned.

We must not look upon holidays as if they involved only a physical problem. In not a few cases mental distraction and intellectual refreshment are what the holiday maker really needs. Many men know well what it is, after twelve months of continuous mental work, to feel brain fagged, though physically quite well. Under such conditions work becomes drudgery, and duties that should be light and pleasurable become burdensome. A person in such a case does not need rest in bed or a sea voyage, but some form of agreeable and diversified travel, either amid attractive scenery or places of antiquarian or historic interest. Under such circumstances the cultivation of some hobby is most helpful—such, for example, as the study of some painter's works or the investigation of some special type or period of architecture. To many of the more active and inquiring minds it is indispensable that a holiday should have some motive and purpose or else it will certainly fail of its desired object. Purposeless loafing may be quite pardonable for a time in the case of the individual seriously run down by physical toil or mental anxiety, but to many it will make a holiday a miserable penance rather than a pleasure. The old world-worn saying, "Know thyself," may be respectfully commended to the prospective holiday maker. We must study ourselves, our needs, and capacities, and we must try to profit by past experience and cease to repeat former mistakes. A little common sense and judicious medical advice might teach most people what sort of holiday they really need and prevent mistakes which are both very common and very annoying. To spend time, money, and effort upon a holiday and then to return not bettered but rather worse in spirit and physique is a peculiarly irritating experience. Under such circumstances the holiday-maker is prone to say with TOUCHSTONE, "When I was at home I was in a better place"; but the remedy lies, not in enveighing against the whole custom and practice of holiday making, which at the lowest estimate certainly is productive of much more good than evil, but in the wise employment of the annual opportunity for relief from work and responsibility, for physical and mental refreshment, and for widening our knowledge of men and things.

AN inquest was recently held at Liverpool by Mr. T. E. SAMPSON touching the death of GRACE ELLEN LEE, a widow aged thirty years, whose husband died in August, 1895. From the evidence it appears that the deceased, who resided at Thirsk, left home ostensibly for the purpose of visiting her father at Loughborough, but in reality she repaired to Liverpool. Accompanied by a gentleman she obtained lodgings at 79, Earle-road, alleging that she had business to transact in the city. On a subsequent date the gentleman referred to called upon her, but after that nothing was seen or heard of him and his identity has not been established. Deceased became ill, aborted, and eventually died. From the testimony of Mr. J. J. HANLY, who was called in to attend her, and of Mr. PAUL, who made the post-mortem examination, it was shown that the cause of death was peritonitis, that the abortion had been induced by the use of an instrument, and that the injuries had not been self-inflicted. Mr. HANLY also formed the opinion that dangerous drugs had been employed. An open verdict was returned, inasmuch as the person who performed the illegal operation could not be traced.

Between the fact of the woman's pregnancy and that of her tragic death there occurred an episode at once disgraceful and nefarious. At 9, Erskine-street a Mrs. M'CONVILLE carried on a business of advertising and supplying quack medicine vaunted as a specific for "obstruction and irregularities." In her service was DENNIS COLLINS, who was struck off the Medical Register two years ago for advertising, and also a person named JOSEPH FRANCIS PATRICK FITZGERALD. COLLINS in his evidence stated that generally he attended to the male patients and FITZGERALD to the female, but that occasionally they acted in concert. COLLINS further admitted that the advertisement of the house was in his name. The clerk who kept the books, answered correspondence, and posted medicines deposed that £30 a week was paid for advertisements in about 200 papers, and that through an advertisement the deceased woman LEE came to the house and was supplied with medicine. On two occasions she was charged 22*s.*, and on a third the reduced price of 15*s.* Witness said that about £40 per week was taken and that the net profit was ascertained in order to supply information to the Income Tax Commissioners. Our readers will be struck with the grim irony of the QUEEN'S Tax being levied as a premium on a practice calculated to harm and perchance to sacrifice the lives of the QUEEN'S subjects.

No one can be so blind as to fail to read between the lines of the shameful advertisements referred to, and see that the so-called remedies are intended to meet conditions imposed by nature as a *regular* event, and not to combat nature's *irregularities*. If any should be in doubt on this point we refer them to a communication from a correspondent which is printed on page 836 of this week's issue. To trustful and erring women these advertisements practically promise immunity from the consequences of unchastity—immunity which can never be obtained, though sought at the risk of health, and it may be of life. The dismal failure in most instances leaves the victim at the mercy of the abortionist or the baby-farmer.

The Statute Law is severe on criminal abortion, though, unfortunately, from the difficulty in establishing the facts it reaches the offender only in a tithe of the cases. Baby-farming has been put under conditions intended to minimise the flagrancies incidental to the occupation and is, by further enactment, to be deprived of its chances of being the medium of cruelty. That is what the law is prepared to do in the direction of provision against crime. But what about the incentives to crime? The advertisements above referred to—and their extent may be guessed when one establishment pays £1560 a year in subsidising 200 papers—call for immediate and stringent legal control. It is a misdemeanour to post them in places of public resort, and if published in pamphlet form they would be condemned as indecent and immoral, and yet they can be scattered broadcast through the columns of our daily and weekly papers, for the Press Act excludes such publication from its incriminatory clauses. We gladly admit that the better class of journals would scorn to aid in the dissemination of the means of wickedness and vice; but still there is a large residuum which unblushingly sows the seeds of "sin's pollution," and against it public contempt and condemnation avail nothing. The protection of the law must be invoked, and that right early.

Annotations.

"Ne quid nimis."

THE PRESIDENTIAL ADDRESS AT THE BRITISH ASSOCIATION.

THE meeting of the British Association, held this year at Liverpool, was opened by a most thoughtful and interesting address from Sir Joseph Lister. In simple, clear, and yet striking phrases, which our readers can enjoy for themselves by turning to his address, he traced the struggles of medicine and surgery to escape from the toils of empiricism which even so lately as half a century ago were close around them. It was certainly fitting that Sir Joseph Lister should take this subject for his discourse, for there is no one whose labours have done more towards bringing about the desirable transition in so many directions from rules of thumb to rules of science that the practitioners of medicine now rejoice in. To his own work Sir Joseph Lister was therefore bound to make some reference, for he could not otherwise have told the story of progress at all, so conspicuous would have been the gaps. But his reference was so slight that the more modern generation of our readers might be apt to overlook the value of that work. To us, nowadays, a septic and antiseptic procedure seem such simple and natural matters. Strict attention to certain details and the chemico-physiological experiment is performed with results of almost perfect certainty. But let us never forget that for our knowledge of these details we are indebted to years of patient labour, to masterly reasoning, and occasionally to errors repaired. "The world is very evil," said the hymn-writer, and this may account for the fact that no good work has ever been done to the lasting benefit of the race without having its record of failures. But genius and perseverance have as universally succeeded as each without the other has universally failed, and the story of antiseptic surgery is an excellent example of their work in combination.

THE PROGRESS OF CIVILISATION.

ANTITHESES have ever been a favourite subject of writers and orators, but the present time seems full of more startling contrasts than ever. Congresses and associations meet for the promotion of science and the welfare of humanity. Emperors in union express their desire for peace. And in perhaps the fairest city in the world massacres worthy of hell itself are directed by the responsible Government, while in Belgium and France the agents of the law have unearthed a conspiracy to spread death and destruction among those presumably perfectly innocent of trampling upon the feelings of Ireland or any other nation. The dynamiter is a curious person. He is vain, swaggering, inordinately cruel, and a coward of the first degree. The Anarchist and Nihilist have, sometimes at least, the courage of their opinions and give their lives for their cause. But the creature who shuts up dynamite in a portmanteau with an arrangement to explode it when he has removed his own miserable body out of the way is too despicable for words. In our opinion there should be an international hunting down of him, for all nations alike are concerned in his prompt extinction.

THE KING'S-CROSS TRAGEDY.

ELIJAH GALLEY, a butcher of Caledonian-road, King's-cross, was arraigned at the Old Bailey for the second time on the charge of having murdered Mr. and Mrs. Riley. It will be remembered that on a previous occasion the jury were unable to agree upon a verdict, the issue lying between murder and manslaughter. The two cases were tried separately, that of Mrs. Riley being taken first, on the 10th inst. The jury found the prisoner guilty of "Manslaughter." On the following day Mr. Bodkin, representing the Crown, intimated that the authorities were prepared to accept a plea of manslaughter in the case of Mr. Riley. From the evidence it appears that Galley was the tenant of Mr. Riley, who had given him notice to quit. Exasperated by this and previous provocation Galley went to Mr. Riley's house, which was adjacent to his shop, and after some verbal altercation stabbed Mr. and Mrs. Riley to death. Lord Coleridge, Q.C., who defended Galley, contended that he was goaded into committing the crime, which was done without malice aforethought, and that, therefore, it ought to be reduced from murder to manslaughter. The jury accepted this view, but added to their verdict that it was manslaughter of the worst kind. Mr. Justice Kennedy, in passing sentence of twenty years' penal servitude on each indictment—the sentences to run concurrently—said that the jury had taken a most merciful view in returning a verdict of manslaughter. The failure of the jury to agree at the first trial, coupled with the rider to the verdict at the second, shows how perilously near Galley was of being convicted of the capital crime. No doubt he had

received considerable provocation, but it was utterly incommensurate with the taking of such a fearful reprisal. Whilst subscribing to the verdict we cannot help thinking that the convict had a very narrow escape from the more serious finding, and that neither judge nor jury strained the quality of mercy.

AN INTERESTING PROJECT.

SINCE the days when we as a nation thought it no sin to traffic in human lives, and to deport the inhabitants of Africa from their homes for our own purposes in other colonies, or even under certain circumstances to sell them into slavery with the Spaniards of the West Indies, the African race have formed the great bulk of the population of these "summer isles of the West." Though slavery has rightly been abolished, the islands for various reasons do not afford any proper scope for educated and enterprising Africans. To remedy this state of things Dr. J. Albert Thorne and other members of the African race are promoting a scheme by which a tract of land is to be acquired in British Central Africa, and the descendants of the race now resident in the British West Indies are to be utilised for the purpose of developing its resources. The realisation of the objects of the promoters of the scheme will mark an important step in the progress of civilisation, and we wish the committee god-speed in their endeavours. Dr. Thorne's address is 73, George-street, Edinburgh, and he will be glad to receive any practical evidences of support.

THE GUILD OF ST. LUKE.

AT a recent chapter of the Guild of St. Luke it was announced that His Grace the Archbishop of Canterbury had consented to preach before the medical profession at St. Paul's Cathedral at 7.30 P.M. on Oct. 21st, being in the octave of St. Luke's Day. It was therefore decided that an endeavour should be made to hold a medical service at St. Paul's Cathedral on that occasion similar to the legal function which occurs when Her Majesty's judges attend the Cathedral in state. We understand that an invitation will be issued to all medical men resident in London and that those entitled to do so will be asked to wear academical robes. The Guild has also resolved to invite various prominent representatives of the City and of the profession in the provinces. A very influential committee has been formed of leading members of the profession, among those who have consented to support the movement being Sir Henry Acland, Dr. Clifford Allbutt, Sir James Paget, Sir Joseph Fayrer, Sir William Broadbent, Sir John Erichsen, Sir Dyce Duckworth, and Dr. Symes Thompson, the Provost of the Guild. The Right Honourable the Lord Mayor has promised to attend in State.

THE CRAIG COLONY FOR EPILEPTICS, NEW YORK.

THE law which established this colony says that it shall be arranged and constructed upon the village plan; this means the establishment of separate households in which a limited number of persons shall live. Each household will, as far as possible, be made a unit within itself. Everything suggestive of an institution, as popularly conceived, shall be avoided, and only those plans of development that foster and promote home life are to be encouraged. When completed it will resemble a country village with its diversified industries and its free social intercourse. The colony estate comprises about 1900 acres of land which are very fertile and highly cultivated, having been brought to this condition by the Shakers, who occupied it as a settlement for some fifty years prior to its purchase by the State. The buildings which the Shakers left, and which are now occupied by the colony's patients, have been put in order and furnished throughout. Systems of sewerage, hot-water heating, and electric lighting have been introduced, and are in perfect running order. Many of the buildings have been changed only in so far as their sanitary condition needed such alteration, thus leaving in many cases the antique interior arrangements of the Shakers. As the patients are received at the colony they are given several thorough examinations by the physicians before being placed at any occupation. Their former mode of life, habits, and especially any disturbance in the alimentary tract are special objects of careful attention. When the symptoms of their disorder have been carefully studied and recorded they are then assigned to some occupation or study. Every person who is physically able to do so will be required to select some task to perform daily, as this is regarded as a therapeutic measure of great importance. While in a measure the patients will be recipients of the State's charity, yet every opportunity will be given to each individual to contribute to his or her maintenance by voluntary labour. The resources are such that the colony will be in time largely self-supporting.

PERNICIOUS ANÆMIA AND CORD CHANGES.

THE association of changes in the cord with pernicious anæmia was first described by Lichtheim, and his observations have been confirmed and extended, especially by Minnich and Nonne in Germany and Bowman, James Taylor and others in this country. In a recent number of the *Nord. Med. Ark.*, Stockholm, Dr. K. Petren contributes a paper of great interest and importance, of which an abstract appears in the last number of the *Neurologisches Centralblatt*. He had examined the cords in nine cases of pernicious anæmia. In two of these there was clinical evidence of cord affection. In four of the cases the vessels were found to be affected with hyaline degeneration; in five were found scattered throughout the cord small hæmorrhages or patches of sclerosis which had been caused by hæmorrhages. In two cases in which no spinal symptoms were detected there was chronic degeneration of the posterior columns. In the first of the two cases with spinal symptoms, that of a woman aged thirty-six years, these consisted in impairment of sensibility, ataxy, and paresis of all extremities, especially the lower, loss of knee-jerks, and incontinence of urine. Throughout the cord, except in the sacral region, there was degeneration of the posterior columns extending as high up as the medulla. In the cervical and upper part of the dorsal cord there was complete degeneration of Goll's columns; in Burdach's columns there were patches of sclerosis more or less confluent, while in the lumbar region the whole posterior columns were similarly degenerated. The second case was that of a man forty-two years of age who had been troubled with weakness in the legs three years before. Under treatment this passed off. But two years later the weakness came on again and increased so that the patient was unable to walk, and before death there was evidence of pernicious anæmia and of severe spastic paraplegia in the legs. After death there was found marked degeneration of the posterior columns of the cord most marked in the upper part and gradually lessening towards the lower end of the cord. The lymph spaces round the vessels also were swollen and filled with granular bodies and detritus. According to Petren there are usually in the cord in cases of pernicious anæmia small hæmorrhages which may lead to some sclerosis without clinical manifestations. The vessels also not uncommonly have thickened walls. In many cases, however, of pernicious anæmia there is a true spinal cord affection which is not to be regarded as merely coincident. From the anatomical point of view no doubt differences are found in the affection of the spinal cord in different cases, but these differences are to be explained by

the manner in which the process develops in different cases. Petren is of opinion that those cases, as regards the affection of the spinal cord, make up a special group, and that probably a toxic process underlies the affection of the spinal cord as well as of the blood.

ENTERIC FEVER AND SEWAGE CONTAMINATED SHELL-FISH.

AMONG the papers read at the recent Sanitary Congress was one by Dr. Newsholme, the medical officer of health for Brighton, upon the above subject. He classified the cases occurring in Brighton in 1894–5–6 as follows:—(*a*) Where the only person eating the shell-fish was the only person acquiring enteric fever; (*b*) where others eating shell-fish had illness which stopped short of a typical attack of enteric fever (while in both *a* and *b* no other ascribable cause of enteric fever was detected); (*c*) cases where defective house drainage was found in addition to a history of shell-fish eating; (*d*) cases in which only one person out of many eating shell-fish acquired enteric fever. Concerning the source from which these shell-fish were derived, Dr. Newsholme found that the ponds from which the oysters were derived and the bed of the river from which the mussels came were subject to gross sewage contamination. He sums up his arguments by concluding that there is no doubt that shell-fish contaminated with sewage can and do convey enteric fever, but that, of course, it does not follow that every shell-fish from a contaminated source contains the typhoid bacillus—nor that, if it did, it is necessary that everyone who eats an infected fish should develop typhoid fever.

A MEDICO-LEGIST ON SUICIDE.

"SUICIDE by hanging," said Professor Brouardel in the course of a recent lecture, "would seem to have been invented on purpose for dipsomaniacs, children, and, generally speaking, all persons whose intellects are weak or undeveloped. The simplicity of the process accounts for its popularity. In some families self-murder by hanging would seem to be an hereditary failing. Not far from Etampes there is a large farm with which I am acquainted. One day, without any apparent cause, the proprietor hung himself, leaving a family of seven sons and four daughters. Ten out of the eleven subsequently followed their father's example, but not until they had married and begotten children, who in their turn all likewise put an end to themselves with the cord. There is now but one representative left of this remarkable group, an old man of sixty-eight, who has passed the family hanging age. When an alcoholic subject is attacked by an acute paroxysm of his disorder the spontaneity of his ideas is only equalled by the rapidity with which he gives effect to them. He never pauses an instant for reflection. The idea of suicide or of some other crime surges up in his mind, and forthwith he acts upon it, often in the most ferocious manner, but without the slightest conception as to why he does so. Whenever a medico-legist has to do with a case of crime for which he can detect no motive, and in which the perpetrator seems to have committed the deed entirely without premeditation or discernment, he should bear alcoholism in mind." In conclusion the Professor related the following extraordinary incident: "While I was house surgeon at Saint-Antoine a man threw himself down from the summit of the Bastille Column, and not only escaped with his life but was not even injured. They were re-gilding the ornamentation at the base of the column, and in order to protect the artists and their work from rain and dust a kind of canvas tent had been rigged up between the pedestal and the surrounding railing. The would-be suicide had the good luck to fall on the tent and rebounded from it to the ground. Some bystanders, thinking he must be severely hurt if not killed outright, ran to his assistance, but before anyone could reach him he scrambled to his feet, picked up his hat, and made off at a round pace. The man was a victim to alcoholism. I did not actually see him fall, but was present when the police arrested him. He said he was servant to a wine-seller and they let him go free. Some days afterwards I was very much surprised to see the identical individual here at the Medical Faculty in the capacity of amphitheatre attendant. He remained with us sixteen years and never again attempted to take his life. I cross-examined him very carefully, but he was quite unable to account for his act. When he ascended the column he had not the most remote intention of throwing himself down. The impulse to do so suddenly seemed to overmaster him completely, and without a moment's thought he yielded."

MEAN LENGTH OF LIFE.

IN the interest of sound vital statistics it is much to be regretted that Professor Corfield, in his inaugural address at the recent Congress of the Sanitary Institute at Newcastle-on-Tyne, committed himself to the fallacious assertion that the "mean length of life" depends upon the birth-rate. The fallacy of the assertion is obvious, since the length of a child's life cannot be influenced by the local relation of births to population at the time the child was born. When this fallacy was recently pointed out by a correspondent in the *Times*, and it was suggested that Professor Corfield must have intended to refer to the "mean age at death" when he spoke of the "mean length of life," he rejoined that he did not mean either the "mean age at death" or the "mean duration of life," which are recognised terms in vital statistics, but that his term "mean length of life" signified something quite different calculated by the late Dr. Bristowe's formula. Under any circumstances this new term "mean length of life" is open to the objection that its verbal meaning is identical with the accepted term "mean duration of life," which can only be ascertained by life-table method. Moreover, since Professor Corfield avers that his "mean length of life" is dependent on the birth-rate it must signify something entirely different from the "mean duration of life," and it becomes all the more important, in the interest of the students of vital statistics, that he should clearly explain what the term really signifies. As Dr. Bristowe's formula deals with the relation between the birth-rate and death-rate it is evident that its result cannot give an accurate indication of the term "mean duration of life," whatever may be its real signification.

THE CHILDREN'S COUNTRY HOLIDAYS FUND.

WE have referred upon previous occasions[1] to the harm wrought by misdirected charity in giving children one-day treats. There is no need to recapitulate the faults and dangers to health common to this form of "pleasure"; but what we do wish to point out is the superiority of organised over disorganised charity when dealing with holidays of a longer duration. That is our general text; our special example is the Children's Country Holidays Fund. The rich woman who says, "I will give so many hundred children of such and such a parish a holiday in the country," is doing a good action. But every good action is not a wise action, and often its goodness would be enhanced by a little forethought. Although she has meant kindly we doubt very much if the results are commensurate with either the money spent or the ideals of the giver. There is no selection made of cases—the children on one side of the street will go and those on the other side who are not denizens of the same parish are left out. Heart-burning

[1] THE LANCET, July 20th, 1895, and Aug. 8th, 1896.

will thus be caused and perhaps absolute injustice done, as comparatively well-to-do children will obtain for no payment at all benefits that could have been bought for them by their parents. We know that all the children in London cannot go a holiday-making, but the organised societies for distributing charity are able to make a much wider and fairer selection than the private giver. The season is practically over now, but we would beg the charitable to remember that money will keep, and the consciousness of possessing funds will enable the authorities who organise sensible holidays to make preparations for next year. We would plead especially for the Children's Country Holidays Fund. It is not the only one, as the authorities themselves allow, but it would seem to be the best and most general. It sends children away for a fortnight, and makes every attempt by means of local committees of workers to reach deserving cases. It enforces no scale of payment, but rightly attempts to promote some self-sacrifice on the part of parents by premising that even the poorest can subscribe something if they make an effort to save during the best weeks of the year. The address of the Fund is 10, Buckingham-street, and the treasurer is the Hon. A. Lyttelton.

CHLOROSIS AND PAPILLORETINITIS.

IN a recent number of the *Deutsche Medicinische Wochenschrift* appears a paper by Diabella on this subject. It describes the case of a female patient aged twenty-one years who began to menstruate in her fourteenth year. Her periods came on irregularly, and she developed a certain degree of chlorosis which did not quite disappear in spite of treatment by iron. In the autumn of 1894 she began to suffer from left-sided headaches and was generally out of health, and in the spring of 1895 she developed great weakness again. Menstruation, which had been interrupted, was re-established, and immediately after this there was impairment of vision and later diplopia. On admission to hospital in April there was marked anæmia with reduction in corpuscles and hæmoglobin, papilloretinitis on both sides, and paralysis of the left external rectus. There was also a loud hæmic murmur. Under treatment with iron and rest in bed there was rapid improvement in the general condition, and by the end of May her colour was natural, the murmur could no longer be heard, and there was a marked improvement in the state of the blood as regards both corpuscles and hæmoglobin. There was also a distinct subsidence of the condition of the optic discs and fundi, and when the patient presented herself again in September these appeared absolutely normal. The author considers that the physical strain and the re-establishment of menstruation, which preceded the onset of the ocular symptoms in this case, were the means of evoking them in a patient predisposed to disturbance by the long-standing chlorosis in a manner analogous to that in which similar changes are said to take place after severe loss of blood.

THE INFANT LIFE PROTECTION BILL.

IN reference to the new endeavour to protect by legislation the lives and health of nurse-children, a subject with which we dealt in a leading article last week, it is needless to say that every such effort, in so far as its object is concerned, has our entire approval, as it must also command the sympathy of every person who has the most ordinary conception of the dangers which beset this phase of infant life. A correspondent shrewdly points out to us that the proposed measure, notwithstanding its virtuous intention, is open nevertheless to objection on at least one important point. "It does not go far enough," he says. "Its provisions apply to those cases only in which more than one child is nursed by the same person. Infants nursed singly are not included within its sphere of application. How it happens that an error so evident as this omission should not have been observed by the framers of the new Act is inexplicable by any ordinary method of reasoning. It is comparatively rare in these days to meet with the old-fashioned baby-farm where two or more inconvenient children are quietly allowed and encouraged to die in infancy. On the other hand, instances in which the single nursling is in like manner done to death are of very frequent occurrence. Only a few days ago such a child aged four months was the subject of an inquiry in the Lambeth coroner's court. There was the usual history of illegitimate birth, an infant handed on from one consumer of its small weekly revenue to another, the mother taking no concern in its short life-history, a diet absurdly unsuitable, and death from starvation duly registered by an official censure of the parent. This case is far from singular. It exactly illustrates the most modern phase of baby-farming. In framing an Act which excludes this particular development of crime from its cognisance our representative law-makers will certainly fail to cure the evil they propose to treat, and will at the same time display a want of insight into the very nature of that evil which is most regrettable. The hope cannot be surrendered that their present position will shortly be discovered by themselves to be, what in face of known facts of evidence it is, entirely untenable and will be abandoned. No Bill which does not provide for the registration and regular supervision of *all* who receive nurse-children, whether single or several, can be of any but a merely nominal and illusory value."

THE PHYSICIAN AND PHARMACIST IN THE UNITED STATES.

ON the analysis of 27,000 prescriptions recently made by Professor Patch, President of the American Pharmacentical Association, it was shown that the pharmacopœia was sadly neglected by physicians. Only seventeen vegetable drugs were prescribed and more than 100 drugs of vegetable origin neglected. Ten metals were honoured, but more than ten were left out in the cold. In this study of 217,000 prescriptions from nineteen drug stores distributed in Chicago, Philadelphia, Bayonne, New York, Boston, Washington, Baltimore, Denver, San Francisco, New Orleans, Cincinnati, and St. Louis, 11·25 per cent. were proprietary articles, not including many elixirs, pills, tablets, fluid extracts, &c., which were of specified manufacture.

STREET NUISANCES.

THE Town Council of Richmond have set an example which the County Council of London might well follow. At a meeting held at the town hall in June, 1896, it passed some by-laws for the prevention of nuisances not already punishable, and among many others is the following admirable rule: "No vendor of newspapers or other articles shall call or shout or ring a bell continuously in any street so as to cause annoyance to any person residing in or occupying any house, shop, warehouse, or office in such street or in any adjoining street." The nuisance of City noises gets worse every day. The noise of traffic, whether from ordinary street traffic or trains, is unavoidable, and even we may say necessary. But it is the wholly unnecessary noises we complain of. The yelling of the vendors of newspapers, coals, fruit, flowers, and this that and the other is absolutely indefensible. So also is the blowing of a post-horn for sheer advertisement by the drivers of carts setting forth the virtues of certain nostrums. Besides noises, there are other offences which might be done away with. London might be and is in some ways the finest city in the world, but in no town can the passer-by see so many beautiful sites utterly spoiled for the want of a

little care. Take Piccadilly-circus, for example. Some years ago this site was improved at a vast expense and beautified with a fountain which is a very good example of the metal-worker's art, even if it is very unhappy in its overwhelming environment. This being done, the Londoner naturally expected that the site would be kept in fairly good order. Instead of this, what do we find? The fountain playing with a miserable trickle; water in the basin mixed with dust, pieces of paper, and orange peel; the space around the fountain's base occupied by loafers of every description. The parks of London, both those under the Crown and County Council, are beautifully kept and stocked. Surely it is not too much to ask that the street open spaces should be so too. It is for the removal of the unnecessary nuisances that we plead, for freedom from them would do much for the health, apart from the pleasure, of the community at large.

THROUGH an oversight in the preparation of our recent Students' Number we omitted to include a list of the staff of the Queen's Hospital, Birmingham, among the provincial hospitals. We have rectified our error in another column (p. 861).

DR. SAMUEL FENWICK has retired from the post of Physician to the London Hospital and at a recent meeting of the governors was unanimously elected Consulting Physician in recognition of his long and eminent services.

THE attention of the President of the Local Government Board having been drawn to the not too emphatic remarks, as to the unrestricted sale of carbolic acid, made by the coroner who attended an inquest at Fulham last week on the body of a girl who had poisoned herself with carbolic acid, a reply has been elicited to the effect that "the question of imposing some restrictions on the sale of carbolic acid is under the consideration of the Lords of the Council." It is earnestly to be hoped that a very speedy and definite decision will be forthcoming, since the number of deaths by poisoning with carbolic acid are, as is well known, very seriously on the increase.

THE FIFTIETH ANNUAL REPORT OF THE COMMISSIONERS IN LUNACY.

THE fiftieth annual report of the Commissioners in Lunacy presents us with a comprehensive statistical review of the certified or reported insane in England and Wales, and a critical account of the various institutions devoted to their care. It contains much important information, which has an interest alike for the profession and for a wider public, and affords satisfactory evidence of a year's painstaking and successful work. According to returns, statutory and other, made to the Lunacy Department, the total number of officially known lunatics, idiots, and persons of unsound mind in England and Wales, on Jan. 1st, 1896, was 96·446, being an increase of 2365 upon the corresponding number on Jan. 1st, 1895. They were distributed as follows: in county and borough asylums 63,957; in registered hospitals 4025; in licensed houses 4336; in metropolitan district asylums 6039; in ordinary workhouses 10,906; and as out-door paupers 5924. At the same date there were 641 criminal lunatics in Broadmoor Asylum, 410 private single patients, and 208 in naval and military hospitals. The increase referred to is the largest yet recorded, the nearest approach being in 1893 when it amounted to 2245; but it has been almost exclusively confined to pauper patients who numbered 2328 more than on Jan. 1st, 1895, whilst the private patients had only increased by 15 and criminal lunatics by 22. This gradually advancing increase in the volume of lunacy under official cognisance is undoubtedly disquieting, but it hardly warrants the sensational importance attributed to it by a section of the daily press. That the increase in the general population, our complex civilisation, the high pressure of living, hereditary influences, and alcoholic indulgence, all have a bearing on the subject, is hardly open to question; but there are other factors at work which we think may, in a measure, explain more satisfactorily the apparently rapid increase of insanity. The Commissioners' figures do not deal with the whole bulk of lunacy in the country. In 1891 they knew of 89·1 per cent. of the total number of lunatics, leaving a residuum of 10·9 per cent. to be accounted for, and the gradual absorption of this floating mass must naturally tend to raise official statistics. The estimation with which the public regard the benefits to be derived from voluntary hospitals is a matter of common knowledge, and the same holds good, although in a minor degree, in the case of asylums. This is evident from the fact that the wage-earning classes are showing their appreciation of the care and treatment meted out to the inmates of public lunatic establishments, by placing in them, in ever-increasing numbers, their insane relatives who are broken down through mere senility, rather than retain them at home. There also appears to be an increasing tendency to relapse, for the proportion of cases, with a history of previous attacks of insanity, admitted during the five years 1890–94, was 3 per cent. greater than during the five years 1880–84. A little consideration will therefore show that the factors underlying the increase, and the magnitude of the increase itself, are not so formidable as at first sight they appear to be.

The elaborate series of tables, which form a large and valuable portion of the report, are this year placed in an appendix, and not in the body of the report as usual. They show that, whereas in 1859 the ratio of insane to population was 18·67 per 10,000, it had reached in the beginning of the present year the high figure of 31·38 per 10,000. This also is the highest on record, and shows a differential increase of ·43 on the ratio of last year. The advance, however, has been almost wholly in the pauper class, as the respective proportions of the two classes in 1859 were for private 2·38, and for pauper 15·95 per 10,000 of the population; in the present year the ratio of private patients had only increased to 2·69 per 10,000, while the pauper ratio had increased to 28·44 per 10,000. The proportionate increase has therefore been vastly greater in the pauper than in the private class. Compared with last year the private ratio has slightly declined, while the pauper is 0·44 higher. In endeavouring to estimate the probable prevalence of insanity in the country, the proportion per cent. of pauper insane, to paupers of all classes is perhaps a safer guide than the ratio to population. This was well shown in the January number of the Journal of Mental Science The actual number of paupers is known and in recent years has advanced fairly uniformly with the estimated total increase of population. During the past decade the ratio of paupers to population has remained almost constant in the proportion of one to thirty-six, and the number of pauper insane under the supervision of the central office embraces, with few exceptions, the whole of the pauper insane in the kingdom. In 1892 the proportion of the pauper insane to all classes of paupers was 10·35 per cent., in the intermediate years there was a slight decline, and it has risen again this year to 10·40 per cent. Notwithstanding the fact that the percentage maintains this uniform character, the numbers of pauper insane coming under official cognisance, have increased, and the probable explanation lies in what has been already stated—viz., the enhanced appreciation of asylum treatment and increased asylum accommodation. Of the total number of pauper insane 73·84 per cent. are in asylums, hospitals and licensed houses, 19·38 per cent. are in workhouses, and 6·78 per cent. with relatives and others. The table in the appendix which shows this distribution, indicates that there has been a gradual increase in the proportion of pauper insane in asylums and an almost corresponding decrease in the numbers in workhouses and retained with relatives and others. It is in Wales that the largest number are maintained in families, but even in the twelve Welsh counties taken together, the proportion has fallen since 1876 by about twenty-five per cent. The whole question whether there is, or is not, a disproportionate increase in the newly occurring cases of insanity, to account for the continuous increase in the number and ratio to population of officially known lunatics, is at present the subject of an inquiry conducted by

the commissioners, concerning which they propose to furnish a separate report.

During the year 1895 the admissions numbered 18,513, being an increase of 835 over the number in 1894. Transfers, re-certifications, and admissions into idiot establishments are not included. The ratio of total admissions, viz. 6·09 per 10,000 is 0·21 higher than that for 1894, and each of the three classes, private, pauper, and criminal, shows a slightly increased proportion on the year, but in the private and criminal classes the ratio has varied little since 1885. There is room for improvement in the table dealing with the admissions. No distinction is made between first cases and re-admissions, and this omission naturally detracts much from its value. A tabular statement of first admissions during the year would be a serviceable guide in gauging the proportion of freshly occurring mental disease. We find however in another part of the appendix, some statistics that throw light upon this subject. They show that during the quinquennial period 1890–1894 the proportion of cases, exclusive of cases of congenital insanity, in which the attack was stated to be the first, amounted to 70·5 per cent., while the proportion in which the attack was stated not to be the first was 29·5 per cent. This affords additional evidence that the increase in the asylum population is, in considerable measure, due to relapsed cases, and from the same source we gather that females are rather more prone to recurrence of mental disease than males. The recovery rate for all institutions except idiot establishments for 1895 was 38·18 per cent. of the admissions, so corrected; and it was 2·13 per cent. below that of 1894. This reduction means that 394 fewer patients were discharged in 1895 than would have been had the recovery rate been equal to that of the preceding year. The rate of mortality for 1895 in all institutions, with the same exception, was 9·95 per cent. of the average number of patients resident during the year, and it was 0·5 per cent. higher than in the previous year, so that the reduction of numbers by death was greater by 352 than would have been the case had the rate of mortality been that of 1894. The effect of each factor in the discharge-rate, therefore, was nearly to neutralise that of the other. In Table V., Appendix A, we find that the total number of deaths for all institutions during the year 1895 is stated to be 7,235, and excluding idiot establishments, 7152; but on turning to Table XIII., which shows the causes of death in the cases of all patients who died in county and borough asylums, registered hospitals, and licensed houses during the year 1895, the total amounts to 7182. There is an evident discrepancy between the two tables. An analysis of the latter table shows that cerebro-spinal diseases accounted for 40 68 per cent of the total mortality, and the remarkable feature attaching to this group of diseases is the great fatality arising from general paralysis, which alone accounted for 1437 deaths, or almost exactly one-fifth of the total mortality. Phthisis was the most fatal of thoracic diseases. The percentage of deaths in this group (thoracic) amounted to 35 78 of the whole. We presume that the linking of senile decay with such affections as diseases of the bones and joints, cellulitis, &c., is a matter of convenience, but the composition of the group appears somewhat anomalous. Forty-seven deaths were due to accident or violence; of these, 18 were suicides. The average ages at death were for males fifty-one years and for females fifty-seven years.

The proportionate occurrence of the various forms of insanity seems to be maintained with a fair degree of regularity. Of the average annual number admitted during the five years 1890–1894 we find that 49 2 per cent. are reported to have been suffering from mania, a decrease of 0·1 per cent. from last year, and 26 5 per cent. from melancholia, an increase of 0 7 per cent. over that of the previous year; 11 3 per cent. from dementia; 4·6 per cent. from senile dementia; 5 1 per cent. from congenital insanity; and the remaining 3·3 per cent. from other forms of mental disorder. Of the whole number admitted during the five years 8·2 per cent are represented as epileptics, 8·5 per cent. as general paralytics, and 25 4 per cent. as suicidal. As regards causation, hereditary influence figures as the most potent factor in the production of mental disease, and an increased proportion of cases is attributed to alcoholism and old age. Old age is assigned as a cause in 5·6 per cent. of males and in 6·4 per cent. of females, showing an increase since 1880 of 2·5 per cent. and 2·1 per cent. in the respective sexes. As regards the etiology of general paralysis, venereal disease is given as the cause in only 3·4 per cent. of the yearly average of males admitted and in 5 per cent. of the females, while alcoholism is made to account for 25 per cent. and 18·8 per cent. respectively. The experience of continental observers is all the other way, and they hold that syphilis is the chief factor in the causation of this disease. Some remarks on this subject were made in the recent report of the Cairo Lunatic Asylum. It is stated that in Egypt alcoholism is rare; on the other hand, syphilis is rife and sexual excess is allowed free play, but it is found that general paralysis is not at all common, occurring in only 3 per cent. of the admissions. The report goes on to state that the Egyptians are usually easy-going and are not subjected to overstrain, nor are they addicted to alcohol, and to this is attributed the infrequency of the disease.

The county and borough asylums now number sixty-nine. The number of fresh admissions into these establishments during the year 1895 amounted to 15,898, or 630 in excess of that for 1894, and 2725 in excess of the average of the ten preceding years. In many of the asylums overcrowding is rife, and in none more so than in those of the county of London, where the pressure for accommodation has become very acute. Measures have been adopted to relieve the immediate pressure by the erection of temporary buildings at Banstead and Colney Hatch Asylums for 300 patients in each case. The occupancy of these buildings has been limited to a period of five years from completion. By that time it is expected that the new asylum at Bexley Heath will be ready for occupation. The situation demands energetic action on the part of the Asylums Committee, for on Jan. 1st the total number of London patients boarded out in asylums and licensed houses was 2232, while the average annual increase of such patients during the past five years has been 565. In a number of county and borough asylums insanitary conditions have prevailed, leading to an unusually large number of cases of colitis, dysentery, or dysenteric diarrhœa, and typhoid fever, which in some instances assumed an epidemic character. Post-mortem examinations were made in 5209 cases (the number of deaths being 6517), a percentage on the total number of deaths of 79·9; this is slightly lower than the percentage of 1894, which was 80·3. In previous reports the Commissioners have strongly recommended that necropsies should be made in every case of death as far as possible, and they again urge the necessity for this in alluding to two fatal cases of rupture of the bladder, where the injury was not detected during life, but only discovered during the progress of the post-mortem examinations. We are glad to find in several of the entries recording the results of the Commissioners' visits to the various asylums a note of approval concerning the vigorous manner in which pathological research is conducted, and material stored which should ultimately become of great practical scientific value; and here we may add, although it has more reference to clinical work, that they testify their appreciation of the illustration of the case-books by means of photographs of the patients. Such commendation, coming from the quarter it does, will doubtless stimulate medical officers to further efforts in the same direction. At p. 8 of the report we are informed that the number of suicides in the county and borough asylums amounted to thirteen, but at p. 22 it is stated that sixteen suicides were recorded in these institutions. It appears that three deaths were due to acts committed before admission, one patient drowned herself at home after being away on leave for more than three months, another ended her life in the same manner while on leave for the day under the charge of an attendant, and eleven committed suicide whilst under detention. The total therefore amounts to sixteen. This is an increase on the number recorded last year, but considering the large number admitted with actively suicidal propensities (over 25 per cent.), necessitating incessant vigilance on their movements, it will be conceded, from the comparatively small number of casualties, that a large measure of care and attention is bestowed on this class by those responsible for their safety and welfare. Misadventure other than suicide accounted for twenty-five deaths. One male was killed by a blow from a hammer inflicted by a fellow patient. Four deaths resulted from epileptic suffocation and four were due to suffocation from food. With regard to the latter the Commissioners recommend that great caution should be exercised in the preparation and administration of food to patients requiring special care in this respect. Two deaths were the result of scalding; in one instance there was

evident disregard of the bathing regulations. Attention is again drawn to the fact that the registered hospitals provide suitable accommodation for insane persons of the higher class who are unable to afford the larger charges of the best of the licensed houses, and regret is expressed that no addition has been made to the number of these hospitals, nor any increase in the endowment of those already established. There is a long account of the inquiry held by the Commissioners into the medical administration of Holloway Sanatorium, and into certain specific allegations made concerning this institution in the pages of a weekly publication. On the occasion of their usual visits the sanatorium was found in good order. The number of licensed houses has undergone a material reduction during the last ten years; a generally favourable opinion is expressed towards them. The Commissioners regard it as significant that the number of private single patients has tended to diminish year by year for some years past, but they have no reason to suppose that this form of treatment is at all falling into abeyance. The condition of the Metropolitan district asylums is described as satisfactory, and the same applies to many of the ordinary workhouses, although in a large proportion of the latter, especially the smaller ones, the provision for the exercise, amusement, and general care of the insane inmates is very defective. Two classes of workhouse inmates receive special notice. In the case of old people who have become mentally enfeebled by reason of natural decay the Commissioners deprecate certification as unnecessary under ordinary circumstances; but with regard to young women who are certifiably insane from congenital or acquired imbecility they deem such action imperative because girls of this type when at large are subjected to special dangers owing to their age and mental incapacity. In some workhouses persons of this class are permitted to discharge themselves, often with disastrous consequences.

The remarks of the Commissioners on the individual asylums which they visit are mostly creditable to the management. The prevalent overcrowding is much to be deplored, but, on the whole, steady progress seems to be generally maintained. Electric lighting has been introduced into some institutions, and in connexion with others detached hospitals for the care of the sick, without which no large asylum can be considered complete, have been built. Much stress is laid on the necessity for bright and cheerful surroundings for all the patients, because the greater the mental deterioration the greater the need for an improved environment. There is no falling off in the interest which attaches to this report, in which continued assurance is given that the public are well and zealously served by the department and that the interests of the insane are efficiently and carefully safeguarded.

IMMORAL ADVERTISEMENTS.

A CORRESPONDENT has sent us the following forcible protest against the indecency of the contents of the advertisement columns of many popular lay journals:—

All who have the welfare of children and the cause of morality at heart will hail with satisfaction the announcement that a Bill is to be presented to Parliament to prevent or remedy such abuses as were brought to light at the trial of the Reading baby farmer, Mrs. Dyer. Whatever may be the scope of the proposed measure and at whatever details of this horrible trade reform is to be aimed, there is one branch of the subject which ought on no account to be neglected. The sentiment of the nation is nothing if not moral; but whilst it turns pale at the ghoulish horrors of the Reading baby farm, wipes from the statute book the Contagious Diseases Acts, gloomily deplores the presence of a vast army of unfortunates, and ostracises the decadent novel as an unclean thing, yet without a tremor or a blush it affords direct encouragements of immorality all the publicity that is to be gained in the columns of the daily press. If decadent novels by familiarising young folks with lewdness make smooth the paths leading to immorality, alluring advertisements flaunting their encouragements in nearly every newspaper suggest that those paths can be safely trodden with the knowledge that infallible remedies are at hand in case of undesirable consequences. The sexual novel implies that chastity is not essential, the immoral advertisement that the results of unchastity need no longer be feared. What other conclusion is to be drawn from the following announcements in a well-known newspaper?

"Good news for ladies. A lady, the daughter of a late eminent physician, will be pleased to forward full particulars of a certain cure for all forms of irregularities, no matter how caused or how long standing."

"A boon to ladies. Mr. —— (who was thirty years a Member of the Royal College of Surgeons of England) will forward free of charge full particulars of a remedy which, during an extensive practice both at home and in the Colonies, he has never known to fail in the most obstinate cases of irregularities."

Whilst above these "the only trustworthy and reliable preparation in the world for all irregularities, never failing in bringing about all that is desired speedily and safely" flaunts its impudent bait with all the assistance that display capitals can give it.

Doubtless there is no one so guileless as to imagine that these disgraceful announcements cater for the wants of females merely suffering from illnesses which are incidental to womankind. Then, these baits would be as censurable as the common quack advertisement. They are all that, and more — they are the first step to the house of the abortionist, the allurer of the young girl to incur a certain risk of which the possible result, with its attendant disgrace and social ostracism, is one of the most potent helps to chastity if not to purity. It would be interesting to know how often virtue, assailed by a great temptation and trembling in the balance, has been lured to destruction by promises such as are scattered abroad by the press of the country. The descent of virtuous womanhood to the streets is accomplished often enough without such recruiting agents as the honeycombed advertising column carries into every house, every shop, and every haunt where youth, innocence, and virtue are to be found.

These advertisements are the handmaids of the baby farmer. However confident the cry, medical men know how difficult it is to bring on abortion by means of drugs; and the luckless girl, betrayed no less by the advertisement than by her seducer, hides her shame in the odious secrecy of the baby farmer's warren. Tempted by her seducer, perhaps egged on by some acquaintance who, fearful of results when none were to be feared, has proved the success of the remedies, she falls and the inevitable occurs. Then is the baby farmer's opportunity, and it is upon the work of such agencies that Mrs. Dyer and her crew batten and prosper. They reap their harvest from the soil which these advertisements help to prepare and keep cultured.

It is to be hoped that the editors and managers of the respectable papers which insert these advertisements and so put a premium upon immorality cannot be aware that their columns form the only channel through which these advertising abortion mongers—to give them their proper name—can reach the public. If they issued their notices in any other form they would be pounced upon by the police for publishing obscene literature. Unfortunately a flaw in the Act forbidding the publication of obscene and immoral literature exempts newspapers. The consequence is that our apostles of purity are too often the purveyors of filth and the vehicles of indecency.

It is well known that a number of papers decline to receive these advertisements, but they are honourable exceptions to the general rule. As long as the law allows them, journals will be found ready to insert them, and so long as one newspaper sets the example others will have a justification for following it. It seems, therefore, that nothing short of making the newspaper publication of these announcements as punishable an offence as printing them in a handbill or pamphlet is likely to be effectual. A complexity of causes contributes to produce the state of things where baby farming is a paying business, and as regards one of them the present seems a suitable opportunity for its removal; and if the subject can receive attention in the Bill to which reference has been made the cause of morality would be strengthened by the removal of what is at once a disgrace to the press of the country and a multiplying menace to the morals of the young and innocent. At the same time the power of the press would be re-invigorated, and admiring readers would be spared the shock of finding, side by side with cogent incitements to morality, advertisements more potent for harm, more subversive of morality, and bristling with dangers more to be feared than any of those which may happen to be denounced in eloquent leading articles.

ELECTION OF DIRECT REPRESENTATIVES TO THE GENERAL MEDICAL COUNCIL.

A MEETING of general practitioners, supporters of Dr. F. H. Alderson for a seat on the General Medical Council, was held at Milford House, Holland-road, W., on Tuesday, the 15th inst., Mr. Frederick Lawrance being in the chair.

The Chairman, in his introduction of the candidate, said that Dr. Alderson was a general practitioner of over thirty years' standing in the same locality, that he well knew the wants of the general practitioner and the disadvantages under which he suffered at the present day, and that in every respect he was well qualified to represent general practitioners on the General Medical Council and by his practical knowledge and advocacy to help to better their position.

Dr. H. Alderson, one of the hon. secretaries to Dr. Alderson's election committee, then read a list of over three hundred practitioners who from the commencement of Dr. Alderson's candidature had promised their active support.

The chairman having asked the candidate to state his views to the meeting, Dr. Alderson thanked the chairman for his kind remarks and said that he was the nominee of no society, that he was quite alone and independent, and that he appealed to general practitioners for their help and support because he was one of themselves and had always identified himself with their best interests. He took, he said, as his basis the following four cardinal points:—1. The Medical Act should be amended in conformity with the requirements of the general practitioner of to-day. 2. Every lying-in woman should be able to command the services of a properly qualified medical man at an adequate remuneration. The word midwife should never be used, but a new order should be established named "obstetric nurses," and they in all cases should be under the direct supervision of a registered practitioner, and it would be his care to safeguard the practitioner from any invasion of the profession by midwives. 3. General practitioners should decline to give their services to any aid society which deducted part of the doctor's salary to increase its own revenue. 4. Steps should be taken to control the very obvious abuses which at present exist in our medical charities, more especially in reference to the out-patient departments of our hospitals.

The chairman, Dr. Barkwell, Dr. Dobson, Dr. Herbert Snow, Dr. Terry, and others having addressed questions to the candidate, Dr. Alderson replied, and the meeting terminated with a vote of thanks to the chairman and expressions of confidence in Dr. Alderson.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Birmingham Sanitary District.—Dr. Alfred Hill, in presenting his twenty-third annual report, regrets that the vital statistics for 1895 evince no improvement for the last two quinquennial periods, but he thinks that with the advent of certain sanitary improvements the death-rate of this important city may be materially diminished. The adoption of the water-carriage system of excrement removal and the paving of courts are among Dr. Hill's recommendations for effecting this desirable end. There is in the report before us a very complete analysis of the vital statistics of Birmingham for 1895 and a comparison of them with those of certain antecedent years, but we are only able to refer to matters which are of a more or less general interest. During 1895 there were 100 cases of small-pox notified, and out of this number 6 (all vaccinated) died. These figures form, as Dr. Hill observes, good illustration of the fallacy of drawing inferences from too few figures, but doubtless the anti-vaccinationists of Birmingham will not be slow to profit by the opportunity. Dr. Hill, however, proceeds to take as the basis of his observations the figures afforded by the statistics of the whole epidemic, which extended from the beginning of 1893 to the middle of 1895, and the following table presents some of the more important facts:—

—	Number of cases.	Number of deaths.	Proportion of deaths.
Vaccinated	2701	121	4·5 per cent.
Unvaccinated	343	107	31·2 ,, ,,
Doubtful	109	20	18·3 ,, ,,

Dr. Hill further supplies a table which we reproduce showing the age distribution of attacks and deaths among the vaccinated and unvaccinated, which affords the usual illustration in a sufficiently obvious fashion.

Age periods.	Cases.			Deaths.			Case mortality per cent.		
	Vaccinated.	Unvaccinated.	Doubtful.	Vaccinated.	Unvaccinated.	Doubtful.	Vaccinated.	Unvaccinated.	Doubtful.
Under 1 year...	0	55	1	0	38	1	—	69	—
1 to 5 years	12	65	7	0	25	0	—	38	—
5 to 10 years	84	74	12	0	5	1	0	7	—
10 to 15 years	264	40	5	1	3	0	0	7	—
15 to 25 years	1095	57	30	20	12	2	2	21	7
25 to 45 years	1042	41	35	79	19	11	8	46	31
45 years and upwards ...	204	11	19	21	5	5	10	—	—

Dr. Hill calculates that there are in Birmingham 118,000 children under ten years of age, and he estimates that out of these there were during the recent epidemic about 100,000 who were vaccinated and 18,000 unvaccinated. Comparing these two groups in respect to their liability to attack, Dr. Hill shows that the unvaccinated suffered eleven times as heavily from small pox as the vaccinated, while during the first five years of life there was about one attack in every 4000 of the vaccinated as against one out of every seventy-five amongst the unvaccinated. Diphtheria evinced during 1895 in Birmingham a rapid and remarkable rise, and this fact is more especially noteworthy in that since the year 1873 this disease has been diminishing in prevalence in Birmingham. Dr. Hill points out that the sudden increase in diphtheria cannot be accounted for by the prevalence of insanitary conditions, since many such insanitary conditions as obtain have existed equally—or rather in a greater degree—in former years. He does not think, too, that schools have had much influence in the spread of this disease in Birmingham, but we must confess that in our view the figures supplied by Dr. Hill relative to this point are capable of different interpretation from that which he puts upon them. The completion of an instalment of a new small-pox hospital is a subject upon which Dr. Hill congratulates the city. The hospital is situated on a site of twenty-four acres and is more than three miles distant from the centre of Birmingham. We wish that we could devote more space to Dr. Hill's report, as he raises many interesting subjects.

Mirfield Urban Sanitary District.—Mr. Thos. B. Fairclough reports that the water supplied to Mirfield, though abundant in quantity, still acts upon lead and that the health of the inhabitants is thereby impaired. It seems, however, that the Huddersfield Corporation are now taking steps to render the water inert towards lead, and Mr. Fairclough attributes their action to the combined efforts of the Local Government Board and the West Riding County Council who for some time past have been urging the matter.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6303 births and 3287 deaths were registered during the week ending Sept. 12th. The annual rate of mortality in these towns,

which had declined in the seven preceding weeks from 24·8 to 16·5 per 1000, further fell last week to 15·8. In London the rate was only 14·8 per 1000, while it averaged 16·5 in the thirty-two provincial towns. The lowest rates in these towns were 8·7 in Derby, 9·3 in Croydon, 11·8 in Leicester, and 12·5 in Cardiff; the highest rates were 18·9 in Birmingham, 19·4 in Manchester, 20·1 in Preston and in Newcastle-upon-Tyne, and 23·1 in Liverpool. The 3287 deaths included 487 which were referred to the principal zymotic diseases, against 610 and 536 in the two preceding weeks; of these, 193 resulted from diarrhœa, 82 from diphtheria, 76 from whooping-cough, 53 from "fever" (principally enteric), 44 from measles, and 39 from scarlet fever. The lowest death-rates from these diseases were recorded in Oldham, Huddersfield, Halifax, and Bolton; and the highest rates in Brighton, Hull, Liverpool, and Sunderland. The greatest mortality from measles occurred in Brighton and Hull; from whooping-cough in Burnley and Nottingham; from "fever" in Norwich, Birkenhead, Hull, and Sunderland; and from diarrhœa in Preston, Liverpool, and Sunderland. The mortality from scarlet fever showed no marked excess in any of the large towns. The 82 deaths from diphtheria in the thirty-three towns included 48 in London, 5 in West Ham, 4 in Liverpool, and 3 each in Cardiff, Birmingham, and Manchester. No fatal case of small-pox was registered in any of the thirty-three large towns. There were 12 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 12th inst., against 16 at the end of each of the two preceding weeks; 1 new case was admitted during the week, against 4, 6, and 2 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3620, against numbers increasing from 3370 to 3610 on the three preceding Saturdays; 316 new cases were admitted during the week, against 416, 333, and 484, in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 149 and 135 in the two preceding weeks, further declined last week to 118, and were 47 below the corrected average. The causes of 39, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Nottingham, Salford, Sheffield, Hull, and in fourteen other smaller towns; the largest proportions of uncertified deaths were registered in Bristol, Derby, Liverpool, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 16·3 and 18·1 per 1000 in the two preceding weeks, declined again to 15·9 during the week ending Sept. 12th, and almost corresponded with the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·8 in Paisley and 13·0 in Edinburgh, to 17·4 in Glasgow and 20·5 in Perth. The 465 deaths in these towns included 41 which were referred to diarrhœa, 14 to measles, 10 to scarlet fever, 6 to whooping-cough, 4 to diphtheria, and 2 to "fever." In all, 77 deaths resulted from these principal zymotic diseases, against 93 and 90 in the two preceding weeks. These 77 deaths were equal to an annual rate of 2·6 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 51 and 43 in the two preceding weeks, further declined to 41 last week, of which 18 occurred in Glasgow and 5 in Edinburgh. The 14 deaths referred to measles exceeded by 1 the number in the preceding week, and included 11 in Glasgow and 3 in Edinburgh. The fatal cases of scarlet fever, which had increased from 3 to 15 in the four preceding weeks, declined to 10 last week, of which 6 occurred in Glasgow and 2 in Leith. The 6 deaths from whooping-cough showed a further decline from the numbers recorded in recent weeks, and included 2 in Glasgow and 2 in Aberdeen. The 4 fatal cases of diphtheria corresponded with the number in the preceding week, and included 3 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 58 and 72 in the two preceding weeks, declined again to 55 last week, but slightly exceeded the number in the corresponding period of last year. The causes of 23, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·2 and 23·3 per 1000 in the two preceding weeks, declined again to 21·8 during the week ending September 12th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 24·2 per 1000, the rate during the same period being 19·6 in London and 15·5 in Edinburgh. The 146 deaths registered in Dublin during the week under notice showed a decline of 10 from the number in the preceding week, and included 22 which were referred to the principal zymotic diseases, against 22 and 20 in the two preceding weeks; of these, 9 resulted from diarrhœa, 6 from whooping-cough, 5 from "fever," 2 from scarlet fever, but not one either from small-pox, measles, or diphtheria. These 22 deaths were equal to an annual rate of 3·3 per 1000, the zymotic death-rate during the same period being 2·2 in London and 1·9 in Edinburgh. The deaths from diarrhœa, which had declined from 21 to 9 in the three preceding weeks, were again 9 last week. The 6 fatal cases of whooping-cough considerably exceeded the number recorded in any recent week. The deaths referred to different forms of "fever," which had declined from 4 to 2 in the three preceding weeks, rose again to 5 last week. The 2 fatal cases of scarlet fever showed a decline of 3 from the number in the preceding week. The 146 deaths in Dublin last week included 28 of infants under one year of age, and 45 of persons aged upwards of sixty years; the deaths of infants showed a decline, while those of elderly persons considerably exceeded those recorded in recent weeks. Six inquest cases and 7 deaths from violence were registered; and 42, or nearly a third, of the deaths occurred in public institutions. The causes of 13, or nearly 9 per cent., of the deaths in the city were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-MAJOR-GENERAL O'DWYER has been appointed Principal Medical Officer at Aldershot. Surgeon-Major J. I. P. Doyle will shortly embark for India, and Brigade-Surgeon-Lieutenant-Colonel W. H. Steele, serving at the headquarters, Western District, is under orders for India. Surgeon-Colonel M. Cogan, Principal Medical Officer, Belfast District, has been selected for duty in India.

The undermentioned Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels:—William B. Slaughter, vice J. L. Notter, M.D., promoted; Andrew L. Browne, M.D., vice H. Comerford, M.D., promoted.

INDIA AND THE INDIAN MEDICAL SERVICES.

Brigade-Surgeon-Lieutenant-Colonel Eaton, A.M.S., is directed to proceed to Bombay to officiate as Principal Medical Officer, Bombay and Aden Districts. Brigade-Surgeon-Lieutenant-Colonel C. T. Peters is appointed to act as Civil Surgeon, Dharwar. Surgeon-Captain G. Bidie, Madras, is appointed to officiate as a Civil Surgeon, and is posted to the Saugor District.

NAVAL MEDICAL SERVICE.

The following appointments are announced:—Staff Surgeon C. F. Whicher to the *Briton*. Surgeons: Hilary C. Arathoon to the *Excellent*; Elystan G. E. O'Leary, James G. Fowler, and John C. G. Reed to the *Victory*; Sydney Croneen and William J. Stitt to the *Wildfire*; and Charles M. Beadnell, John W. Craig, and Alexander T. Wysard, to the *Pembroke*, all additional for disposal.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant S. A. M. Copeman to be Surgeon-Captain.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant William Moyle O'Connor, M.B., to be Surgeon-Captain.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The following is the Syllabus of Courses of Instruction for the Training of Stretcher Bearers of Units to be given at the Headquarters of the London Rifle Brigade, 130, Bunhill-row, Finsbury, E.C.:—Monday, Oct. 5th: Introductory

Lecture on the Skeleton, Joints, and Muscles, at 7.30 P.M. Monday, Oct. 12th: The Heart, Bloodvessels and Circulation; the Position of the Viscera (Surgeon-Major W. Culver James, M.D., Honourable Artillery Company). Monday, Oct. 19th: The Lungs and Respiration. Monday, Oct. 26th: The Treatment of the Apparently Drowned; Burns and Scalds (Surgeon-Captain G. G. Ferguson, M.B., London Scottish R.V.). Monday, Nov. 2nd: Fractures and Dislocations and their Treatment. Saturday, Nov. 7th: The Causes and Treatment of Insensibility; Parade in Drill Order, at 4 30 P.M. (Surgeon-Major H. F. Stokes, London Rifle Brigade). Monday, Nov. 9th: Wounds and Hæmorrhage; the First Field Dressing. Monday, Nov. 16th: Poisons and their Treatment (Surgeon-Captain E. Hughes, London Rifle Brigade). Monday, Nov. 23rd: The Transport of Wounded (Surgeon-Captain R. R. Sleman, Artists' R.V.). Monday, Nov. 30th: Rehearsal for Inspection. Monday, Dec. 7th: Prize Competition; Parade in Drill Order. Saturday, Dec. 12th: Presentation of Prizes. Monday, Dec. 14th: Official Inspection and Examination; Parade in Drill Order. Instruction in the use of the Triangular Bandage will be given by Surgeon-Lieutenant H. Dickson, M.B., C.S.R.V., commencing about Nov. 2nd. The Advanced Course for Passed Members will be under the charge of Surgeon-Lieutenant E. M. Callender, M.D., C.S.R.V., and Surgeon-Lieutenant E. W. St. V. Ryan, London Irish Rifles; it will include the following subjects:—Oct. 5th: The Rules for Using and Varieties of the Roller Bandage; Head Bandages. Oct 12th: Bandages for Fingers, Hand, and Arm. Oct. 19th: Bandages for the Foot, Leg, and Thigh. Oct. 26th: Special Bandages for Chest, Jaw, and Perineum. Nov. 2nd: The Carriage and Nursing of Helpless Patients. Nov. 7th: The Observation of the Sick and the Use of the Thermometer in Hospitals. Nov. 9th: The Contents and Uses of the Field Medical Companion and the Surgical Haversack. Nov. 16th: Application of Splints and Tourniquets. Nov. 23rd: Prize Competition; Parade at 7.25 P.M. in Drill Order. Application Forms can be obtained of the Honorary Secretaries, Surgeon-Captain R. R. Sleman, Artists' R.V., 7, St. Benet-place, Gracechurch-street, E.C.

DEATHS IN THE SERVICES.

We learn with much regret from the *Pioneer Mail* of the 26th ult. that Surgeon-Major G. Nixon, I.M.S., civil surgeon of Jhansi, died from cholera at that station on Aug. 17th last after a few hours' illness. He is supposed to have contracted the disease at Lalitpur, where he had shortly before been summoned to attend a case, but several cases of cholera had recently made their appearance in the Jhansi district. Surgeon-Major Nixon, M.B Dub., was educated at Trinity College, Dublin, and joined the Indian Medical Service in 1878. He had the Afghan medal (1879–80) and the Burma medal and clasp (1886–87). The deceased officer was greatly respected and beloved for his professional skill and qualifications and for his estimable qualities of character. He had, it is understood, just been selected to fill a coming vacancy as civil surgeon for Naini Tal.—Surgeon-Major H. Saunders' death at Rawal Pindi is also reported.

THUMBMARK IDENTIFICATION.

Sir William Herschell's system of identifying persons by thumbmarks has been introduced experimentally into Bengal. The chief object of the measure is to identify Government pensioners and to exclude individuals personating them.

Surgeon-Captain David T. Key, 1st City of London Artillery Volunteers, has been presented with an illuminated address and silver vestas box as a slight token of his kindness to the corps by bringing the recruits successfully through their recent examination.

The Queen has approved of the vacant Good Service Reward of £100 for the Army Medical Staff being conferred upon Surgeon-Major-General E. C. Markey, C.B., the Principal Medical Officer of the Southern District.

LITERARY INTELLIGENCE.—In October Messrs. John Wright and Co. of Bristol will issue "Lectures on Renal and Urinary Diseases," by Dr. Robert Saundby, being a new edition in one volume of his works on "Bright's Disease" and on "Diabetes," with much new matter added. The volume will contain four coloured plates and an additional section on miscellaneous affections of the kidney, making it altogether more complete as a work of reference.

Correspondence.

"Audi alteram partem."

"THE GENERAL MEDICAL COUNCIL: CRITICS AND CANDIDATES."

To the Editors of THE LANCET.

SIRS,—During the interval which has elapsed since the publication of my last letter Professor Horsley has had the goodness to fulfil his promise of sending me a copy of his paper read at Carlisle; and I have also perused his article contributed to the *Medical Magazine* for February last, as well as his letter which appeared in your impression of the 28th ultimo. The effect has been to remind me of an ancient apologue:

"Once upon a time," as the story-books say, "an English battleship was lying in Chinese waters, and the captain of a junk came on board as a visitor. He saw an officer with a sextant and asked what it was for. He was told that its purpose was to take the altitude of the sun, and he rejoined, 'Take now the depth of the sea.' It was explained to him that this was not possible by such an instrument, whereupon he pronounced the sextant to be 'altogether barbarian and entirely useless.'" The parallel in all other respects is so exact that I can almost picture to myself the critics of the Council as adorned with pigtails.

I am glad that I qualified my undertaking to deal completely with the Carlisle paper by the words "if time permit," for an unqualified undertaking would have been impossible of fulfilment. My memory will not allow me to identify the "examples" which Professor Horsley has adduced, and I can only regard his paper as a caricature of the proceedings of the Council—a caricature so much exaggerated as to present few points of resemblance to the original. I will try briefly to state the facts. The complaints made to the Council in respect of the conduct of practitioners may be arranged under three heads—namely, (*a*) those which, whether well- or ill-founded, refer to matters outside of the Council's jurisdiction; (*b*) those which are vague statements of "he saids" and "they saids," unsupported either by the presence or the promise of evidence; and (*c*) those which disclose valid grounds for inquiry. As a typical example of class (*a*) I may mention that one registered practitioner wrote to say that, having settled in a certain town and having called upon the doctors already established there, one of the latter had not only failed to return his visit, but had refused to recognise him as an acquaintance. The complainant was of opinion that this course of conduct cast an unmerited slur upon him, and that it was, therefore, "infamous in a professional respect." In many other instances it has been manifest that complaints belonging to either of the first two classes have been mere expressions of personal feeling on the part of the complainants.

The sessions of the Council are separated by considerable intervals of time, and it is of high importance that practitioners should not be harassed or injured by groundless accusations or by long-impending proceedings. It is of at least equal importance that the procedure of the Council should not be misused as a weapon of offence in private quarrels. In order to secure these ends, and therefore for the protection of practitioners, it is necessary that the power of summarily dismissing complaints belonging to Class (*a*) should be vested in someone, and in whom could it be so fitly vested as in the President? I do not speak of the man, but of the office; for it is not my intention to defend the distinguished physician who now holds it against attacks which are rendered harmless by his high character, his tried sagacity, and his long and eminent services, as well as by his possession of the entire confidence and esteem of his colleagues, as lately evinced by his unanimous re-election. I will only say of these attacks that in my judgment they have been as indecorous as they were intemperate and groundless. Complaints of the class described under (*b*) lead the President to direct an inquiry by the solicitor to the Council, a gentleman of the very highest standing in his honourable profession. The solicitor writes to the complainant, calls his attention to the weak points or other imperfections of his complaint, and asks what evidence he will be able to bring forward in support of it. Such letters sometimes remain unanswered, the complaints to which they

refer having probably been made in some passing fit of ill-temper which a night's rest has dissipated. Sometimes they produce a reply to the practical effect that there is no evidence, and the case drops out of the list. Sometimes they lead to information which it becomes necessary to bring before the Council. In 1893 the President, of his own accord, asked for assistance in the preliminary investigation of complaints, and the Penal Cases Committee was appointed in consequence. That Committee does not waste its time over charges which are manifestly either frivolous or unsupported, but it confidentially discusses all others with the solicitor, obtains counsel's opinion when necessary, and makes recommendations to the best of its judgment. I do not claim for it a freedom from liability to error. I am sometimes inclined to doubt whether Professor Horsley and Dr. Welsford, if the question were pushed home, would make such a claim in plain language, absolutely and unreservedly, even for themselves. I am unable to share Professor Horsley's admiration for the manner in which prosecutions before the Council have been conducted on the part of the Medical Defence Union. I fully appreciate Dr. Bateman's zeal and good intentions, but the work which he undertakes is that of a lawyer and requires a legal training. He is frequently overmatched when contending against counsel for the defence; and, independently of this, I can recall several instances in which it appeared to me and to others that the facts relied upon might have been more carefully selected, and marshalled in better array; while I can recall some in which the imperfection of the evidence left the Council no option but to acquit, notwithstanding a very general feeling that a conviction would have been secured by a more complete disclosure of the circumstances.

I proceed to what may be called the second division of the main subject. Professor Horsley and Dr. Welsford contend, in many passages of their various letters and articles, that the Council has power to exercise some supervision over or regulation of medical practice, some sort of grandmotherly control over practitioners in relation to their general management of their own affairs, and in the *Medical Magazine* Professor Horsley refers to the acceptance of employment at the hands of the so-called medical aid associations as being "unethical" and proper to be prohibited or discouraged by the Council. I do not remember his having mentioned that this particular subject was examined into and reported upon, at great length and at great expenditure of time and money, by a Committee of the Council, and that the Council has expressed an opinion strongly adverse to the associations in question. The servants of such associations have therefore sufficiently shown, by continuing to hold the condemned employment, that they are not sensitive to expressions of opinion; and it follows that prohibition would be useless unless it could be enforced, in case of recalcitrancy, by removal from the Register. Professor Horsley and Dr. Welsford seem to have fallen into the error of thinking such a course possible. The explanation of this error is simple. They have been their own lawyers; and have made the mistake of fancying that they can correctly interpret an Act of Parliament by mere reference to its language, and without regard either to preceding Acts or to the general principles of jurisprudence. The words of the Act of 1858, taken alone, appear to mean that the Council has absolute power to decide what constitutes infamous conduct, and absolute power to remove from the Register the name of any practitioner who refuses to govern himself in accordance with the Council's decision. For example, it might be held that the Council could declare it infamous to wear light-coloured clothes, and could remove from the Register anyone who persisted in wearing them. But we know that the actual power of the Council cannot really be so great as this, and we therefore have to inquire as to the extent and nature of the limitations by which it is controlled. Every lawyer knows that the interpretation of an Act of Parliament is uncertain until it has been settled by judicial decisions, and that these decisions are of equal authority with the Act on which they are founded. In the present instance they furnish the limitations of which we are in search. In several of the early cases of removal of names from the Register on account of "infamous conduct" the defendants sought reinstatement from the law, and these cases were heard and decided by judges of the High Court. The judges at first viewed the powers of the Council, and the absence of any special provision for appeal from its decisions, with great disfavour; and they laid down a rule under which the powers in question were to be exercised. They admitted the right of the Council to decide whether certain courses of conduct were infamous or not, but only subject to the prior condition that the conduct must be such as to raise a reasonable presumption of possible infamy in the mind of an ordinary person. They expressly denied the power of the Council to set up any fantastic or esoteric standard of infamy, and to punish practitioners who refused to conform to such a standard, explicitly declaring that the courts would protect medical practitioners in the exercise of all lawful and reasonable liberty. Thus, to take one out of many possible examples, a practitioner who has "covered" an unqualified person has made himself accessory to a fraud, which may reasonably be said to be infamous; and the Council is the sole judge as to whether, in any particular case, the "covering" was infamous or not. No court would go behind the Council's decision. But if the conduct proved were merely that the accused practitioner had exercised his unquestionable right to sell his skill and labour on such terms as seemed good to him, whether to a "Medical Aid Association" or to any other person or persons, and if his name were therefore removed from the Register, the decisions leave no doubt that the High Court would issue an order directing it to be restored. The conduct complained of might be unwise, might be derogatory to the profession, might be harmful to other practitioners, might afford justification for the infliction of social penalties. It would, nevertheless, be within the fundamental legal rights and liberties of the individual, and it would not be held to afford any justification for the infliction of a legal penalty. I was in court when judgment was given in Allinson's appeal against the Council. Allinson contended that his name had been removed for advertising, and asked to have it restored. Mr. Justice Henn Collins clearly intimated that advertising alone would not have justified the removal; but he decided against the appeal because the *character* of the advertisements was such as to afford reasonable ground for maintaining that they were infamous. The contention that the Council is an ethical tribunal, able to enforce its opinions on ethical questions by removal from the Register, is one which, in the face of the judicial decisions, cannot be seriously maintained.

As another aspect of the "medical aid" question, it has been alleged that the servants of the associations undertake more professional work than they can carry out in a proper manner, and that this is sufficient to constitute "infamous conduct" within the meaning of the Act. Perhaps it might be so; but in this matter, as in every other, the jurisdiction of the Council must be exercised in strict conformity with law. No charge of the kind has yet been brought against any individual; and such a charge, if brought, would not be easily proved, although it would require to be proved to the hilt in order to sustain a conviction against an appeal. A first difficulty would be that one man can accomplish work which would be beyond the powers of another. Moreover, the "Medical Aid" doctor contracts to attend the sick members of an association composed of presumably healthy people; and it would be necessary to show that the average amount of sickness among them was greater than that with which an ordinary person, aided by a systematic method of arranging and conducting his business, could expect successfully to contend. In every large general practice, of whatever class the patients are composed, there will be periods in which their demands are so heavy as seriously to tax the energies of the practitioner; but no one would impute this to him as a matter for which he could be blamed.

The next point of importance is that of prosecutions under Clause 40 for the wrongful assumption of medical titles. Professor Horsley repeats as to this what he has said many times before, and adds that the duty of instituting such prosecutions was "*entrusted by the Government* to the General Medical Council." The best reply will be to state the facts. At the session of the Council on the 3rd of August, 1859, a letter was received from the Home Secretary inclosing one which had been addressed to him by a registered practitioner, who complained of the price of the Register, and who called attention to "the fact that the Council do not intend to be a prosecuting body." It was agreed that, "in reference to that part of the letter transmitted by the Home Secretary which complains that this Council does not intend to be a prosecuting body for the

prevention of Illegal Practice, the Council appoint Dr. Christison, Dr. Alexander Wood, Dr. Corrigan, and Dr. Storrar, a Committee to prepare an answer." On the next day, Dr. Alexander Wood, as Chairman of this Committee, presented the following report:—"In regard to the complaint made in the letter to the Right Honourable the Secretary of State relative to the prosecution of irregular practitioners, the Committee is aware that exaggerated ideas have been currently entertained in the Medical Profession of the powers and duties of the Council in that respect, and think it right to take advantage of the present opportunity to state what the powers and duties of the Council really are." The report enumerates these powers and duties under four heads, which it is unnecessary to quote, and continues: "*It is no part, however, of the functions of the Council, according to the Act, to institute prosecutions at large for offences against the Act.* The enforcement of the prohibitory clause of the Act, Section 40, is attended with peculiar facilities in Scotland and Ireland, in each of which divisions of the kingdom there is a Public Prosecutor, whose duty is to relieve all other persons of the responsibility of prosecuting for public offences. In England this duty unfortunately falls in general on private individuals or associations; and in this respect offences against the Medical Act are not differently circumstanced from offences at large. The Council will supply any information in its power to those who may become concerned in such prosecutions." The report was unanimously approved and adopted by the Council and was forwarded to the Home Office in due course. It would, undoubtedly, be submitted to the law officers for their opinion, and the soundness of the views which it expresses has never been disputed by any government. Although there is no duty to prosecute there is the power to do so; and the question whether or when this power should be exercised is entirely one of expediency. I mentioned in a previous letter the reasons why a few prosecutions had lately been undertaken, but it cannot be said that the Council has been repaid with gratitude for its intervention. Clause 42, which gives the penalties to the Council, imposes no duty, it having been framed merely in order to exclude the action of common informers. In the metropolis, as I have already stated, Clause 42 is inoperative, in spite of repeated efforts on the part of the Council to obtain its confirmation from the Home Office; and the penalties go to the police; but the police authorities recognise no duty in consequence, and refuse to institute prosecutions. In the provinces, when a penalty has been recovered, it has always been given by the Council, in aid of expenses, to the successful prosecutor; and, in proper cases, the Council has done more than this. In October last, for example, the Medical Defence Union obtained the conviction of one Davis, of Kidsgrove, for using the titles "Surgeon and M.D.," and he was fined £10 and costs. The Staffordshire magistrates refused to pay over the penalty, saying they were entitled to retain it under a local act; but, under strong pressure from the legal advisers of the Council, they ultimately abandoned this position, and paid the money to the Council "without prejudice," leaving the question of their alleged right to be settled on any future occasion which may arise. The Council then paid the costs of the Medical Defence Union, which amounted to £14 *7s. 6d.*

I must now turn to Dr. Welsford, in whose letter there is not much to answer, although its general tone strongly recalls Bishop Earle's delicious description of a young preacher, as "a bird not yet fledged, that hath hopped out of his nest to be chirping on a hedge, and will be straggling abroad at what peril soever." I have wrung from him two alleged examples of "wasted opportunities," with the first of which, that relating to medical aid associations, I have already dealt. For the other, which arises out of the action of the Council with respect to certificates given by the Obstetrical Society, Dr. Welsford refers me to a paper which, he says, has appeared in the *British Medical Journal*. I do not read the *British Medical Journal*, and must therefore remain in the dark (I trust, without undue repining) as to the grounds of Dr. Welsford's condemnation. What the Medical Council did was to call the attention of the council of the Obstetrical Society to the fact that the terms of the certificate might be misconstrued; with the result that an amended form was adopted. If Dr. Welsford thinks that the Medical Council could have done more than this, even if they had thought it expedient, I can only ask him to read over again what I have written above with regard to the limitations within which the penal jurisdiction of the Council must be exercised. The idea of charging a number of eminent gentlemen with "infamous conduct," on account of what was, at the worst, an error of judgment, could only be entertained by a person whose perceptions of the ludicrous were congenitally deficient.

Dr. Welsford asserts that the Council "has *never attempted* to establish the one-portal system of medical examination." It will be charitable, and probably correct, to assume that he has neither seen nor heard of the elaborate "Report on Professional Education," which was published by the Council in 1869, and in which it was declared that "the time has now arrived when a single Conjoint Examining Board should be formed for each division of the kingdom." The effect of this declaration was that each English licensing authority consented to forego its special privileges in order to enter into the desired combination, and each authority appointed a delegate or delegates to assist in settling the necessary details. These delegates, most or all of whom were members of the Council, held between seventy and eighty meetings, and framed a scheme which was unanimously agreed to by themselves, and which was accepted and approved by the Council. A final meeting was called, for the purpose of deciding upon the form and time of a public announcement of the change; and, at this meeting, the delegate of the Royal College of Surgeons informed his colleagues that the College had decided to withdraw, unless similar schemes were at the same time brought into operation in Scotland and Ireland. The project therefore fell to the ground, as the Council had exhausted its powers of recommendation, and coercion of the College of Surgeons could only be effected by the Legislature. Dr. Welsford complains, with absolute want of reason, that the Council has been careful of the vested interests of corporations. Vested interests are property, and on this account they are not only respected by honest people, but they are also under the protection of the law; and, if the Council had attempted to act in contravention of them, its action would have been promptly rectified by the Privy Council. In an earlier letter Dr. Welsford made the inaccurate statement that power was given to the Council to "compel all examining bodies to bring their examinations up to a standard which shall be considered to be satisfactory by the Council." The Medical Council has no power beyond that of representing the "insufficiency" of a particular examination to the Privy Council, which body would then have unfettered discretion as to the manner in which the "representation" should be dealt with. The refusal of the Council to recommend an increase in the number of direct representatives was not a "wasted opportunity," but a decision arrived at after full consideration of the circumstances. Dr. Welsford enumerates "valuable and useful reforms," which have been effected since 1886, mainly, he says, "by the perseverence and determination of our direct representatives, notably of Dr. Glover," and adds that these reforms were carried "notwithstanding the opposition which has always been made by the reactionary members of the Council, among the most determined of *whom* we may place *the name* (*sic*) of Mr. Brudenell Carter." Dr. Welsford's want of acquaintance with the questions on which he writes is often conspicuous; and I hope may afford an explanation of a statement which, but for this hope, I could only describe as deliberately false. I supported all the so-called "reforms" in question, looking upon them merely as natural developments of our work; while one of them, "the increased requirements of the Council in the matter of medical examinations" depended upon acceptance of the recommendations of the Examinations Committee, of which Sir Dyce Duckworth is chairman, and of which I have been a member, while Dr. Glover and Mr. Wheelhouse were not members. May I add that I originated and carried a "reform" not enumerated by Dr. Welsford, but which I think valuable, in the shape of a modification of the Standing Orders which permits the Council to defer its judgment on a charge of "infamous conduct," so that the offender, in a comparatively venial case, may have time to repent, and to produce evidence of amendment, before a final decision is pronounced? This is perhaps the place in which to correct Professor Horsley's assertion that, in a given instance, a practitioner was "severely censured." The Council has never "censured," either "severely" or in any other manner, because it has no authority to censure. A spoken censure might expose the speaker to an action for

slander; a censure which appeared in the minutes would probably be held to be libellous. Under legal advice the President never goes farther than to recommend a person who has barely escaped conviction to be careful with regard to his future conduct.

Although Dr. Welsford does not always use words correctly, it cannot be denied that he has a copious vocabulary. I find among his "derangement of epitaphs" such gems as the following:—"Childish" (applied to men of double his age and twenty times his experience), "pigheaded obstinacy," "selfish ends," "dreary record of inefficiency," "inconsistent and contradictory views," "simple ignorance," "purposely concealed," "mire of misrepresentation," and the like. This, of course, is mere vituperation, of which any cabdriver could deliver himself with equal skill, and, possibly, in greater abundance. Its chief interest is in the evidence it affords that a Cambridge doctorate, even when conferred so lately as in 1891, does not of necessity modify the natural simplicity of human manners. As a last word to him, may I say that my argument from the great men of the past was perfectly valid to the extent in which I applied it. It suffices to raise a presumption that their views may have been right, and that the views of Dr. Welsford may be wrong.

The whole truth is that the outcry against the Medical Council, when stripped of misleading verbiage, is nothing more than an attempt to introduce, into the medical profession, the accepted methods of common trades-unionism. What is the demand for better preliminary education, when made by persons who write such English as much of that through which I have lately been compelled painfully to struggle, but the trades-union demand for a limitation of the number of apprentices? What is the grievance against men who are said to undertake more work than they can accomplish, except a striving after the trades-union limitation of the hours of labour, or after the trades-union regulation against laying down the trowel? What is the demand for legal penalties against those who act "unethically," except a striving after the power to exercise a trades-union tyranny? What are some of the most noisy of the self-styled "reformers," except the nearest approximations which our ranks can furnish to Trades-union agitators. Medicine, which is among the noblest of all professions, would, in my judgment, be among the poorest of all trades; and would suffer, as other trades have suffered, if it were controlled by the short-sighted selfishness which prevails among so many of them. It seems to me certain that the Legislature will not look favourably upon the grounds on which alterations in the Medical Acts are now being sought, and will not be likely to sanction any changes which are obviously directed to the "protection" of the profession. The business of the Legislature is the protection of the public; and our business should be to make it clear that the evils of which we complain are evils which affect the community even more than they affect ourselves. I know that Professor Horsley is capable of better things than his recent controversial performances; and I would fain appeal to him to detach himself from associations which will not add to his reputation, and to devote his powers to that task of "educating the public," through which alone, I am well assured, the desires of genuine medical reformers can be attained.

There are certain abysses into which it is not pleasant to descend, but I cannot refrain from alluding to the undignified pertinacity with which Professor Horsley and his associates reiterate dreary and often refuted clap-trap about the expenses of the Council being met by funds wrung from the "hard earnings" of practitioners. All earnings may be said to be "hard," if we contrast industrious lives with those which are spent in luxury; but I am not aware—and I have had some experience—that medical earnings are in any way "harder" than others, and I have no wish that my profession should be held up to the compassion of the public. It would be as reasonable to say of the medical schools as of the Council that they are supported in the manner indicated, because attendance at one of them is, like registration, a necessary preliminary to the attainment of a legalised medical position, and therefore is also a preliminary to professional "earnings" in any proper sense. When the Act of 1858 was under discussion, one of the suggestions of the Government was to place a five-guinea stamp duty upon a first qualification, in order to meet the expenses of legalising the privileges which the document would confer; and, if this had been done, the money which has been spent in carrying out the Act would have gone to swell the returns of the Inland Revenue Department. The payments made to members of Council for their attendances were fixed by the Privy Council; and it is notorious that in a large proportion of cases these payments are insufficient to preserve the recipients from pecuniary loss. I should have liked to glance at the abundant small inaccuracies, misquotations, or misstatements, by which Professor Horsley's compositions are disfigured, but many of these are personal to myself, and are, therefore, unimportant. I cannot venture on account of them to make a larger demand upon your space.—I have the honour to be, Sirs,

Your most obedient servant,

Harley-street, Sept. 4th, 1896. R. BRUDENELL CARTER.

"WHAT IS SCIENTIFIC PLAGIARISM?"

To the Editors of THE LANCET.

MESSIEURS LES DIRECTEURS,—On me communique le numéro de votre estimable journal THE LANCET du 29 Août, dans lequel se trouve un article intitulé "What is Scientific Plagiarism?" Cet article contient un grand nombre de faits qui ne sont pas tout à fait exacts. Je comprends très bien que M. le Dr. Lombroso cherche à atténuer sa mauvaise action, mais il m'est difficile de laisser dire sans protester que j'ai poursuivi M. Lombroso pour trois petites pages et trois petits clichés intercalés par mégarde sans que mon nom soit cité. Je n'ai pas une telle cruauté et la Cour d'Appel de Rouen n'aurait pas manqué d'acquitter M. Lombroso s'il n'avait fait que cela.

Je suis, Messieurs, votre respectueux

Rouen, 7 Sept., 1896. CRÉPIEUX-JAMIN.

*** M. Crépieux-Jamin asks us to publish an extract from the judgment in proof of his contention, but the document in question has not reached us.—ED. L.

"DIRECT REPRESENTATIVES ON THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—I have read with interest and amusement the lengthy epistle from Dr. J. Brassey Brierley of Old Trafford to which you have so generously accorded so large a portion of your valuable space. It grieves me to find that I shall not gain the invaluable support of Dr. J. Brassey Brierley in my candidature for election as a Direct Representative, but I am consoled to know that the reasons he is good enough to give for his decision are so inconsequential, and at the same time so conclusively prove that my views on the midwives question are in sympathy with those held by the majority of the profession, that they will weigh with most medical men strongly in my favour.

I am, Sirs, yours faithfully,

GEORGE BROWN.

Hart-street, Bloomsbury-square, W.C., Sept. 15th, 1896.

JUSTLY AGGRIEVED.

To the Editors of THE LANCET.

SIRS,—I have to request that you will be so good as to allow me to announce in the columns of THE LANCET that I resigned my appointment in connexion with the Friendly Societies Association of this town last September (1895), and I did so in obedience to the resolution (which has more than once appeared in your journal) of the Royal College of Physicians of Ireland, and in part, also, to similar resolutions of the Royal Colleges of Physicians and Surgeons of London. These three resolutions were constantly hurled at me while I held office in the Friendly Societies Association here, although now the two English Colleges repudiate their resolutions. Not so, however, the Dublin College, which still unflinchingly adheres to its resolution, and I think it is as well that this should be known publicly. My reason for asking you to insert this letter is that during part of 1894–5 these resolutions were menacingly brought to my notice in anonymous communications. This was bad enough while I actually held office in the Banbury Association; but it is a little too much of a joke that these communications (addressed to my former residence in this town) continue to pour in on me still at my

present address. Indeed, a short while ago Dr. W. A. Carline of Lincoln went so far as to send me a circular asking me to subscribe to "The Lincoln Fund," which I consider a rather curious request, seeing that long before the Lincoln men resigned I had already given up my appointment here at considerable inconvenience and great pecuniary loss to myself, and it certainly does seem inexplicable to me how Dr. Carline in his official capacity to "The Lincoln Fund" was ignorant of this. I do not mind particularly resigning my appointment in obedience to the resolution of my own college (the Royal College of Physicians of Ireland), but I do very much indeed mind my place being forthwith filled by a M.R.C.S. Eng., L.R.C.P. Lond., as well as the action of these two English colleges with regard to their own resolutions, which they seem either unable or unwilling to uphold, although these very resolutions were shaken, so to speak, in my face in conjunction with the resolution of my own College. But what I do now greatly complain of is the vexatious persistency with which, from time to time, my anonymous correspondents keep dropping long shots at me. I can only suppose that these individuals imagine I still hold office in the medical association here, and I trust that when this note appears their most discreditable and ungentlemanlike communications will cease. Personally I feel that I have been most unjustly, badly, and unfairly dealt with in this business from start to finish, and,

I remain, Sirs, yours faithfully,

JOHN J. A. RAYE, L.R.C.P. Irel., &c.

South Bar, Banbury, Oxon., Sept. 14th, 1896.

"ST. ANDREWS UNIVERSITY MEDICAL SCHOOL."

To the Editors of THE LANCET.

SIRS,—In your issue of Sept. 12th, 1896, you published under the above heading the following by a Dundee practitioner, Dr. R. C. Buist, who signs himself "M.D. Edin.": "Lest students should be misled in making their arrangements for next session it is necessary to point out that as the medical ordinances for St. Andrews University have not yet been passed the newly appointed lecturers on Anatomy and Materia Medica will not at present be able to give qualifying courses of lectures."

The subject of qualifying courses of lectures at St. Andrews University, so far as I can see, in no way concerns your correspondent; but as he wilfully or ignorantly misrepresents the truth, I shall feel obliged by your publishing what I now write. It is true the new medical ordinances for St. Andrews have not yet passed, but under the old ordinances, dated March 21st, 1862, the University enjoys the following powers: Section 8. "No one shall be received as a candidate for the degree of Bachelor of Medicine or Master in Surgery unless *two years at least* of his four years of medical and surgical study shall have been in one or more of the following universities and colleges—viz., *the University of St. Andrews;* the University of Glasgow; the University of Aberdeen; the University of Edinburgh; the University of Oxford; the University of Cambridge; Trinity College, Dublin; Queen's College, Belfast; Queen's College, Cork; and Queen's College, Galway." This shows that St. Andrews University is entitled to give *two anni medici* at St. Andrews.

That St. Andrews University can recognise lecturers for the remaining years of the medical curriculum appears from Section 9, Clauses 1 and 3, of the same ordinances. "The remaining years of medical and surgical study, other than those for which provision is made by the eighth section, may be either in one or more of the universities and colleges above specified, or in University College, London; King's College, London; or the hospital schools of London; or in the school of the College of Surgeons in Dublin; or *under such private teachers of medicine as may from time to time receive recognition from the University Court.*" (The italics are mine.) The University Court of St. Andrews has clearly the power to recognise for medical graduating purposes not only the teaching of private or outside lecturers, but also its own duly appointed lecturers, and under the latter are to be reckoned its newly-appointed lecturers on anatomy and materia medica, as well as its long-established lecturer on botany. Under the new arrangements medical students at St. Andrews will be able to take any of the following qualifying classes during the coming winter session, 1896-7: (1) mathematics; (2) physics; (3) botany; (4) natural history; (5) chemistry; (6) anatomy; (7) physiology; and (8) materia medica. I may be permitted to add as a set-off to Dr. Buist's *non possumus* that St. Andrews University is not only able to give two *anni medici* in the ancient city, but that it is also able and willing to extend a helping hand to deserving medical students, and offers the following bursaries for the winter session 1896-7: (*a*) two bursaries for male students, of the annual value of £50 each, and tenable for two years (in the gift of the St. Andrews Graduates' Association, London—Sir B. W. Richardson, President); and (*b*) twenty Taylour Thomson bursaries for female students, of the annual value of from £15 to £30 each, and also tenable for two years (in the gift of the University itself).

I am, Sirs, yours truly,

J. BELL PETTIGREW, M.D. Edin., &c.,
Dean of the Medical Faculty.

University of St. Andrews, Sept. 14th, 1896.

RETURN CASES OF SCARLET FEVER: TWO SUGGESTIONS.

To the Editors of THE LANCET.

SIRS,—There are two modern practices which appear to me very largely to contribute to the prevalence of scarlet fever in spite of notification and other precautions. Both are due to excess of zeal. The first only occurs in cases treated at home, and may possibly be peculiar to South London vestries. I find that in this neighbourhood it is customary for householders to receive a notice almost immediately after notification requiring them to have disinfection carried out as soon as medical attendance ceases. In about a fortnight another notice is sent, *or an inspector calls*, and in some cases a third notice is sent within a month. Ignorant people are apt to allow the disinfection to be done before peeling has ceased, thinking that the vestry officials know better than the medical attendant. After the disinfection free social intercourse is resumed with the natural result. The second practice is one which I think is still more to be deprecated, as it is very largely followed both in hospital and private practice, and to the best of my belief is the chief cause of "return cases" of scarlet fever—I mean the habit of anointing the skin with carbolised oil or other ointment, the idea being that this assists desquamation and at the same time prevents the spread of infection. I quite admit that it prevents the branny particles flying about, but the fact that oil supples the skin seems to have been lost sight of by orthodox disciples of antisepticism. That dryness of skin is conducive to rapid desquamation may be seen in the snake. I would suggest that the experiment be tried in two series of 500 cases each, one series treated without any oily or fatty matter and having one warm bath a week; a second series anointed and bathed as usual. Judging from my experience I believe that the former series will show at least one week per head less average duration of the desquamative stage. In nearly every "return case" of infection that I have seen some peeling has been going on about the heels of the recently discharged patient, because when oiling is left off the thick skin dries and cracks. If my views are correct the importance of the matter, both from a medical and ratepayer's point of view, will readily be seen.

I am, Sirs, yours truly,

VERE G. WEBB, L.R.C.P. Irel.

New Kent-road, S.E., Sept. 10th, 1896.

FOOD INTEMPERANCE.

To the Editors of THE LANCET.

SIRS,—Some years ago I became greatly interested in the question of food intemperance, and on Jan. 23rd, 1892, you did me the honour to insert in THE LANCET a letter from me on the subject. In that letter I briefly described the various forms in which I had met with it under the headings of "hyperphagy," "polyphagy," "opsomania," and "sitomania." Referring to the latter malady I wrote of it as perhaps the most rare, as well as the most interesting, food abnormality or intemperance from a psychological point of view (some of its victims finding their way into asylums for the insane), and I defined it in these terms: "A mania occurring periodically, characterised by loss of volition and an overwhelming desire to partake of food to an unlimited extent (in its fully developed

state), followed by remorse, depression, and tendency to suicide." I compared the leading features of this disease with those of the closely allied features of dipsomania at some length, but I will not trespass on your space now by quoting further, as the curious may find the letter given *in extenso* in THE LANCET on the above mentioned date. The matter had faded from my memory when attention to it was again aroused some time ago by reading in the pages of the *Illustrated London News* the following typical description of this rare form of disease from the inimitable pen of James Payn. As it may interest some of your readers who have not seen the original as it has interested me I venture to ask you to insert it in THE LANCET.

"The passion for 'pie' among the inhabitants of the United States is proverbial, but it is not for mince-pie. We have been hitherto under the impression that that delightful form of feasting was almost as peculiar to our native land as currant and raspberry tart. Perhaps it is a recent importation, which, having been once tasted by one hitherto ignorant of its charms, may well have provoked a never-to-be-sufficiently-gratified desire. At all events, it has been the ruin of a young gentleman of Indiana, as described by the *Buffalo Courier*. He is in prison on a charge of forgery, caused by an insatiable passion for mince-pie, which compelled him to obtain it by any means. He had always been a victim to it, and had gone voluntarily to Bloomingdale Asylum, where, it appears, persons are treated for gluttony. Perhaps the proper cure (as with dipsomaniacs or apprentices in jam-shops) is to give the inmates as much as they like of their favourite food; but if so, the appetite of this unfortunate young man (who ought to be immortalised by some disciple of Mr. Lears) only grew by what it fed on. He came out of that asylum madder than ever for mince-pie. He then became a theological student, but soon felt that his unhappy passion would interfere with his ministerial functions. 'He might be seized with his mania at a supper of one of his flock, or even in the church parlours, and create an unpardonable scandal.' Before he had quite resolved upon some new profession his ungovernable weakness caused him to break into the housekeeper's closet at the theological college and abstract its store of delicacies. After this he became a hopeless victim to his passion, and 'would often pawn his watch or his overcoat to gratify it in a pastry-cook's shop.' Unhappily, he did not suffer from these excesses (as British schoolboys often do), though he is described as thin and pasty (or rather pastry) faced. At last he took to thieving and (alas!) to forgery. One supposes that 'mince piety,' as Leigh Hunt called it, is practised all the year round in the United States, for in England this temptation would only have occurred to him in the winter months and given him more time for recuperation and repentance."

I am, Sirs, your obedient servant,

JAMES ADAM, M.D. St. And.

West Malling, Kent, Sept. 12th, 1896.

A NEW METHOD OF VERSION.

To the Editors of THE LANCET.

SIRS,—Last month I was sent for by a neighbouring practitioner to assist him at a confinement. On arrival I found the patient, an unmarried primipara aged twenty-one years, had been in labour about thirty hours under the care of a midwife, who had about an hour before sent for the practitioner in attendance. He had diagnosed a shoulder presentation and had given chloroform and attempted version ineffectually. On my making a further attempt I failed in my efforts to reach a foot, nor could I succeed with any force I felt justified in using in getting my whole hand inside the uterus. After talking over the matter we decided to decapitate as the only possible method of delivery. My colleague continued the chloroform and I proceeded with the operation. Finding, however, that I could not get a blunt hook around the neck I determined to remove the arm to give me more room and I divided the tissues at the upper part of the shoulder first, keeping up traction meanwhile upon the presenting arm in order to bring the presentation as low as possible and to make the decapitation easier and safer. I was just about to proceed with the further mutilation when I experienced that yielding and progressive sensation so welcome after a prolonged struggle with an obstructed labour. I found that the soft tissues which still retained their attachment to the trunk were tearing down ribbon-wise towards the waist. Fearing to lose the advantage of having the arm to keep the presentation low down I was anxious that the arm should not become detached, and I used great care and graduated the force to prevent this untoward result occurring. The feeling of yielding and progression still being evident, further and ocular examination confirmed the sensation and the presenting part was seen to be becoming, not only lower, but larger. Maintaining, although with some trepidation, the traction, I could now get my finger into the groin of the child, and a little more gentle force completed the delivery of the breech, followed immediately by that of the entire trunk and head. My colleague and I were both astonished at the rapidity of the delivery—astonishment increased in my case by a sense of relief at getting rid of what had only a few minutes before appeared a difficult task. What had happened was this. I had unintentionally performed podalic version, or, more correctly, version to the breech. And this is how it came about. The force that I exerted upon the presenting arm being steady and continuous was enough to strip the skin and muscles off the chest. Once started at the axilla, the peeling had proceeded downwards, and as the point of traction got lower down towards the buttocks it had caused first a doubling of the trunk upon itself, which proceeded so far until I was able to reach the flexure of the hip, and then the traction applied there completed the version and delivery. Upon thinking the matter over it appears likely that the method I unwittingly practised may possibly be of use when designedly done. Certainly in any similar case I should try it if I were not able to turn in the ordinary way. I do not venture to suggest that it would always succeed, but that it would frequently, or perhaps occasionally, do so I have no doubt. In this case the child was said to have antedated its advent by a fortnight or more; it certainly was not a large one, but of what I should say, in the absence of weighing, a fair average size. Another point must be borne in mind by anyone who attempts this method of delivery. This (may I venture to call it new?) operation is an alternative to decapitation, and would be contra-indicated in any case where a living child might be born. It would be, indeed, a serious matter if it were used so effectually and unwarrantably as to bring a one-armed living baby into the world.—I am, Sirs, yours truly,

B. JONES, M.D. Durh., D.S. Sc. Vict.

Leigh, Lancashire, Sept. 12th, 1896.

"BACTERIOLOGY AND THE MEDICAL CURRICULUM."

To the Editors of THE LANCET.

SIRS,—Dr. Washbourn's letter, which you publish in THE LANCET of Sept. 12th and the leading article in the issue of Sept. 5th deal with a matter of the first importance to medical science and to medical students. There can surely be but one opinion as to the value to the student of medicine of a well-regulated course of bacteriology. Those of us who had the very great advantage of studying surgery under the supervision of a master like Sir Joseph Lister know that the proper dressing of a wound is really an experiment in bacteriology, for it is an attempt to keep sterile certain media in which many organisms, some of them pathogenic, will, if free to act, grow and do their work of destruction. It is a fact that bacteriology, in spite of its practical usefulness, is not yet a compulsory subject of study for the student of medicine. This, however, should surprise no one who happens to remember that it is not long since an Inspector of Examinations called the attention of the two Royal Colleges in London to the remarkable inadequacy of their examination in bacteriology for their diploma in Public Health. This action by the inspector happened a few months after there had been some conversation at a meeting of the Royal College of Physicians of London about the examinations for the D.P.H.; but nothing was done to improve these examinations until after the inspector had drawn attention to them.

The marked way in which practical recognition of bacteriology as a subject of first-class importance has been, and still is, withheld by the Colleges, amply justified the complaints of those who, like yourselves and Dr. Washbourn, think this subject does not in London occupy the high place in medical teaching and examination to which its great practical importance clearly entitles it and which should have been given to it long ago. But why does Dr. Washbourn desire to see eighteen or twenty-four additional lectures inflicted upon the medical student? Surely the number of lectures from which the student already suffers is more than enough. When I studied bacteriology in Berlin under the guidance of Professor Koch one short lecture was given at the beginning of the course. This lecture was given in order to let the student know with what instruments and materials he would have to do the work. At the end of the course another lecture was given, and in it the principal points which had been brought under the student's observation were dwelt upon and, so to speak, driven home. But between

these two lectures the student was kept entirely to laboratory work, and no one would have given that up, even for an hour, in order to attend a lecture on bacteriology. In Koch's class we were put into sections of four or six, and over each of these sections a demonstrator was placed, and he spent most of the time in going from one student to another in his section, explaining difficulties, asking and answering questions, and satisfying himself that each student thoroughly understood his work. At intervals Koch himself inspected each student's work and criticised it for the benefit of the student and of his fellows in the section. This was Koch's system of teaching bacteriology, and, having had personal experience of its excellence, I venture to commend it to the favourable consideration of all whom it may concern.

I think the first duty of a teacher of bacteriology should be to train a sufficient staff of young men to act as demonstrators to his students. If he does this thoroughly and selects these helpers in his work with proper care I venture to think he need not trouble himself to lecture to his students oftener than, say, twice a month at the outside. He will find he has more than enough to do in exercising that supervision of his demonstrators and of his students which was years ago so admirable a feature in Koch's classes in the Louisenstrasse in Berlin. How some of us did rejoice because there were practically no lectures for us to attend; and nobody missed them. If Dr. Washbourn would get rid of his enthusiasm for the lecture as a useful means of instruction where laboratory work is available, and if he could persuade certain other medical teachers—they do not all teach bacteriology—to follow him in this, there would yet arise generations of teachers and of students who would call him blessed.—I am, Sirs, yours faithfully,

London, Sept. 12th, 1896. G. A. HERON.

A LOST VOLUME.

To the Editors of THE LANCET.

SIRS,—Will you allow me to ask any gentleman who has a volume marked "Pamphlets 6," lent many years back, to kindly return it to, Yours obediently,

CHRISTOPHER HEATH.

36, Cavendish-square, W., Sept. 15th, 1896.

THOMAS HOOD AND THOMAS WAKLEY.

To the Editors of THE LANCET.

SIRS,—In reference to your quotation from Tom Hood's article gently quizzing Thomas Wakley upon his attitude towards authors and his jocose assertion that he could write poetry by the mile or bushel, it seems to me that a later passage from the same "whimsicality" might with advantage have been added.

Wakley in his speech in the House had apparently told a story of a country practitioner who, being called to a labourer, the victim of a fall, with fracture of the skull and consequent paralysis, diagnosed the situation, elevated the depressed bone, and restored the man to health. Such a person, said Wakley, was of more service to his generation than any author.

"An elevator!" says Hood; "why, what is poetry but an elevator, not of a paltry bit of bone, but of the human soul? We concede, then, to Mr. Wakley the full advantage of his surgical case, we allow all the blessing of the poor agriculturist being enabled within five minutes to sit up in bed and receive the caresses of his wife and children, but we really must beg leave to remind the honourable story-teller that whilst his surgeon was setting to rights the broken skull of one farmer our authors were operating beneficially on the brains of millions." I am, Sirs, yours faithfully,

Sept. 12th, 1896. G. P.

THE PRACTITIONER'S M.D.

To the Editors of THE LANCET.

SIRS,—In the Students' Number of THE LANCET I see in a note (page 677) that there is a probability of the St. Andrews degree examination for general practitioners over forty years of age being abolished. Surely something ought to be done to prevent this. The only chance left to a general practitioner of obtaining a degree will then be Durham, and they require an examination in Latin—viz., the translation of three books of Cæsar. Thus many a student-practitioner who tries to keep up to date in his professional work, but has no time to read Latin, is practically prohibited from obtaining the coveted degree, M.D. But on page 682 learn the University of Brussels opens its portals to the hardworking British general practitioner, and holds an examination for the Doctorate of the University. The article states that in England there are 600 graduates holding this degree. That the examination is no farce we may gather from the results in 1895, when out of 132 examined 65 passed and 67 failed. Now, Sirs, I ask, why should the British general practitioner go out of his own country for the M.D. degree? There are scores of practitioners willing to work for, and anxious to obtain, a registrable British degree in medicine. Circumstances over which they had no control prevented them passing such an entrance examination in arts as will admit them to the university examination for the M.D. degree. They discover their mistake when too late. For though they have developed professional ability sufficient to gain the degree they find they are thus prohibited from taking the university course culminating in the degree examination. Why should not the St. Andrews and Durham Universities widen their portals (the latter removing the Latin examination) and admit all who wish to present themselves for examination, and grant the degree to all who attain the requisite standard for a pass? At present the number admitted to the degree of M.D. at St. Andrews University is ten and the average at Durham is still less. I suggest that general practitioners at once organise and submit a petition to the Queen without delay praying that she will not sanction the new Ordinance presented by St. Andrews University, but widen its scope. Failing this, let us petition in the proper quarter for the organisation of a State examination for the M.D. degree, open to all registered practitioners without any age or time limit, the only condition being that they hold the necessary qualifications in medicine, surgery, and midwifery of the several colleges. This will not interfere with the university examination. A student could either be M.D. of a university or "M.D. State exam." In the course of a few years the State examination might be made compulsory to all college men. The fees for it need not necessarily be prohibitive. The necessity for a teaching, degree-granting university would be done away with, and the whole of the college diploma men would be enabled to obtain the M.D. Furthermore, the General Medical Council should be instructed to institute such an entrance examination in arts as will be accepted by the universities or the State Examining Board. All future students should be required to pass this examination unless they have passed the entrance in arts at some university. Thus would all college men be credited with a satisfactory examination in arts and be enabled, after obtaining their college diplomas, to proceed at once to the "M.D. State exam." I trust that my letter will aid in opening a way for present registered general practitioners to obtain a *registrable British degree*, and further to suggest a way out of the interminable controversy *re* degrees and diplomas.—I am, Sirs, yours faithfully,

A PRACTITIONER BUT STILL A STUDENT.

Manchester, Sept. 9th, 1896.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

New Scheme for dealing with Manchester Sewage.

AT a recent meeting of the City Council Alderman Joseph Thompson, chairman of the Rivers Committee, stated that a report on the main drainage by the city surveyor, Mr. Meade, had been adopted by the committee, and they now asked the sanction of the council for a scheme "which to a great extent reversed the policy which was suggested on former occasions." The report, which is elaborate and able, deals first with the treatment by "filtration through land." This would require 1300 acres, which it seems cannot be found suitable for the purpose, but if found would cost, with the necessary works, about £550,700, and there would be an annual outlay in addition of about £3000. If land at a higher level could be obtained and pumping resorted to the cost would be still greater. With regard to "artificial filtration," Mr. Meade quotes a report by Sir Henry Roscoe, in which was recommended an artificial area

of filter beds, composed of cinders, and capable of dealing with about 800,000 gallons of tank effluent per acre per day, but the surveyor says that he knows of no instance where filters treating so large a volume of sewage of the kind produced at Manchester, have been in successful operation for any length of time. To deal with this quantity of sewage forty acres would be required, but the future dry-weather flow of the sewage is estimated at 26,000,000 gallons a day, so that the filtration area would have to be increased, and as the estimated cost of constructing a complete system of tank filters with the necessary contingent works on the forty acres would be about £220,000, with an additional annual charge for working of £5,220, exclusive of the cost of renewing the filtering material, the outlay for so treating the 26,000,000 gallons may be easily estimated. The city surveyor "thinks that the doubts which Sir Henry Roscoe himself expressed in his report are well founded, and that the practical difficulty of working, as well as the cost of the requisite renewals of filters from time to time, together with the uncertainty as regards the working, render it undesirable that the corporation should adopt an artificial filtering system." Glasgow constructed works for the filtration and aeration of tank effluent for a population of 252,000 in the east end of that city in 1894, and when a deputation from Manchester, accompanied by the city surveyor, visited them in January, 1895, they were told that the corporation contemplated the construction of similar works for the rest of the city. However, the result of their contemplation has been that after trying filtration on a large scale they have "now reverted to the London system of conveying the effluent down to the tidal waters." The report next deals with removal of the sewage to the tidal waters of the Mersey. On sanitary and economical grounds the city surveyor advises the construction of a conduit of larger capacity than at present required, in order to provide for the future, capable of discharging, say, seventy millions of gallons per day. This would carry off, after treatment, all the dry-weather sewage, together with the street washings, due to rainfalls of a quarter of an inch and less per twenty-four hours upon the building area of the city; and the discharge of storm-water and sewage effluent into the Ship Canal at Davyhulme would be only of occasional occurrence, and when it would be in a "very dilute and inoffensive condition." The conduit would be fifteen and a half miles in length, with the outlet on the south side of the estuary near Randall's Sluices, between Fiddler's Ferry and Widnes. This scheme is estimated to cost not more than £253,000, and the annual working expenses would be about £200. The precipitation process would still be carried on at Davyhulme. The volume of sludge to be dealt with has been an increasing quantity, and when all the sewers are connected with the main drainage system, the amount will be about 510 tons per day, but if allowance be made for a prospective population of 650,000, the ultimate amount of wet sludge would be about 624 tons per day. It is proposed to have a steamer with a carrying capacity of 1000 tons constantly engaged in taking this stuff out to sea, the point of deposit being near the North-west Lightship, thirty miles from Eastham. The sludge, or part of it, is now compressed into portable cakes and used to some extent by the farmers, and the use of the existing pressing plant will probably be continued up to the limit of the demand for the sludge cakes. The regulations under which sludge can be deposited at sea would be the same as those which have been in force for many years with respect to the disposal of the Liverpool town refuse. It must be tipped outside the lightship, at a depth of not less than fifteen fathoms, and as soon as possible after high water. Although pressure from the joint committee may have hastened the issue of this report it is satisfactory to know that it is not a hasty production, but that the various schemes considered have occupied the close attention of the city surveyor for the past two years. The possible opposition to the scheme cannot at present be estimated. If carried out Manchester and the Ship Canal will be relieved, but believers in the dictum that what comes from the land should be given back to the land may look on it as an economical failure and an engineer's remedy only to be justified by the practical impossibility of doing that which is best. The further consideration of the report was resumed at an adjourned meeting on Sept. 9th. It was opened by the reading of a letter from Sir H. Roscoe to the city surveyor in which he practically acknowledges that chemistry and filtration are beaten. He says: "I entirely agree with your conclusion that it is both simpler and less costly to take the effluent to tidal waters than to resort to filtration, whether by land or by artificial filter beds." The report was criticised more especially from the financial standpoint, many members of the council thinking the estimate for the conduit much too low. In the end the report was passed with the addition to the resolution of the words: "with the understanding that a subsequent report be presented by the Rivers Committee on the subject of the cost." It is intended, of course, that the clear effluent only shall be sent into the Mersey and delivered on the top of the tide, so that it will be at once carried away. There seems to be in some quarters, as shown in the Liverpool papers, a good deal of misunderstanding and alarm, not unmixed with indignation—real or affected, most likely the latter—at the impudence of Manchester in thinking of such a scheme. Pictures are drawn of the silting up of the Mersey with sewage deposit, &c. Whatever else may be thought of the scheme it certainly will not have that effect, for no crude sewage will be poured into the estuary, whilst at present far too much finds its way into the canal and finally, of course, into the Mersey.

The Corporation Lairages.

In spite of the various difficulties connected with the Ship Canal Manchester is determined that it shall succeed, and the facilities for dealing with produce of all kinds, animate or inanimate, are being extended. The other day the Lord Mayor formally opened the foreign animals wharf and lairages established by the corporation on the banks of the canal at Old Trafford. Last year cold-air stores were opened and have been a decided success, and it is expected that the lairages will in like manner prove to be a boon to the city and neighbourhood. The site of the wharf covers twelve acres, bought at a cost of £14,300. Buildings costing £55,000 have already been erected with accommodation for 1000 cattle, still leaving sufficient land to provide accommodation for 2000 more. The buildings comprise a landing wharf, cattle runs and pens, slaughter-houses, cooling room, chill rooms, engine and boiler house, two sewerage tanks, importers' offices, and other necessary premises. One of the representatives of "the trade" said that the meat killed at the lairages and sent to the wholesale market in Water-street was in much better condition than meat killed at Birkenhead.

Licences to Sell Intoxicants.

At the recent city licensing sessions it was stated that there were now in the city 3021 persons holding licences for the sale or intoxicating liquors, classified as follows:—Licensed victuallers, 519; beer on, 1426; beer and wine on, 390; wine on, 6; sweets, 27; beer off, 561; beer and wine off, 7; and beer, wine, spirits, and sweets, 85. Manchester people, therefore, have abundant opportunities of obtaining the cup that inebriates but cheers too briefly. In justice to the magistrates, however, it must be said that they are generally opposed to granting new licences and are increasingly strict as to renewals.

Mr. Balfour at Styal.

On the 31st ult. Mr. Balfour laid the foundation stone of the cottage homes now being erected at Styal, near Wilmslow, by the Chorlton board of guardians, for the children in their charge. As stated in a former communication the whole area of the estate is fifty acres, and accommodation is to be provided in the first instance for 280 children in twelve houses of twenty beds each, and four smaller houses containing ten beds each. There will be a kindergarten school for infants and a general school for older children, planned so that it may be extended to accommodate 500 children. There will also be workshops, bakery, swimming baths, &c., and a cottage hospital of sixteen beds. The cost is to be £50,310. It is a good sign of the times when a First Lord of the Treasury interests himself in the welfare of pauper children, who may be truly called the "residuum" of the population.

Bequests to Manchester Charities.

The late Miss Sarah Anne Tetlow, of Patricroft, who died on Aug. 27th, has left the following legacies, among others, free of duty: to the Manchester Royal Infirmary and Dispensary, £1000; to the Convalescent Hospital at Cheadle, £1000; to Henshaw's Blind Asylum, £500; to the Deaf and Dumb School, £500; to the Eccles and Patricroft Hospital, £500; and to the Southport Convalescent Hospital, £300.

Sept. 15th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Election of Assistant Surgeon to the Royal Infirmary, Newcastle-upon-Tyne.

MR. HENRY BRUNTON ANGUS, M.B., B.S. Dunelm., has this week been elected honorary assistant surgeon at the Royal Infirmary, Newcastle-upon-Tyne; there were four other candidates. Mr. Angus's election has given great satisfaction as he is a local man, a student of the Newcastle School, and personally very popular.

Firearms Again.

During the last week the Newcastle magistrates have committed for trial a young gunner, David Jones, on a charge of manslaughter and a man upwards of sixty years of age for murder. Both are singular cases. In the former a young fellow at the barracks put a blank cartridge into his rifle and then, inserting the muzzle into a companion's mouth, shot him dead. At the time of this tragedy there were several others in the room. The other is also a very painful case. Some twelve years ago a man named Ewart, who was nearly blind with one eye, was struck during a wrangle by a man named Dan Grey and the sight of his good eye destroyed. A few days ago Ewart met Grey in the street, placed a loaded pistol in contact with his chest, and shot him dead, saying after his arrest that he had waited for years for the opportunity of shooting Grey. It is more than probable that Ewart is not responsible, the loss of his sight having to a very considerable extent altered his disposition. Ewart was quite sober, but Jones had been drinking.

The New Infirmary, Newcastle-upon-Tyne.

The Mayor of Newcastle, Mr. Riley Lord, suggests that the inhabitants of the north of England should commemorate the sixty years' reign of Her Majesty the Queen by raising for each year that she has reigned £1000—£60,000 in all—for the purpose of building a new infirmary to be called the Royal Victoria Hospital. He hopes that the Queen might be induced to lay the foundation-stone of this building next year, and there can be no doubt that if Her Majesty were able to do so the success of this project would be secured. The site is still a matter of doubt. If a considerable sum of money were subscribed, or if an individual should, at this stage, give a large donation to the building fund, on condition that a site were determined upon, say, in one month's time, a suitable site would be found and such an impetus given to the movement that it would gather strength and quickly mature. There should be no difficulty in a rich community like Newcastle in finding such a public-spirited and philanthropic person. In Edinburgh a wealthy citizen has given £100,000 to build a University hall and another has given £100,000 to build a town-hall. Will no one start the Newcastle building fund with a big donation?

Death of Mr. C. C. Hewitson of Weardale.

At St. John's Chapel, Weardale, there has just died a medical man, Mr. C. C. Hewitson, who has been connected with the district for nearly forty years. Mr. Hewitson was seventy years of age and saw patients within a week of his death.

Newcastle-upon-Tyne, Sept. 14th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Proposed New Medical Journal in Scotland.

DURING the past week or two there has been a considerable amount of excitement amongst the members of the profession in Edinburgh over a proposal to start a new medical journal. The proposal met with such a wide and hearty approval that a committee was formed and has been actively engaged in making inquiries and discussing arrangements. What the proposed arrangements are or what scope the enterprise is to assume are being kept secret by the committee, but from the amount and kind of support which appears to have been evoked there seems to be little doubt that the new year will see an important departure in medical journalism in Scotland.

New Public Health Hospital, Leith.

The New Public Health Hospital for the Burgh of Leith, erected by the municipality, was opened last week by Provost Bennett in the presence of a large number of invited guests. Emeritus Professor Struthers, President of the Royal College of Surgeons of Edinburgh, addressed the meeting, and dwelt upon the perfect arrangements in the hospital for the comfort and well-being of the patients. He referred to the exclusion of infectious cases from general hospitals as a recent and necessary arrangement, which had been carried out both by Edinburgh and Leith. He also spoke of the practical disappearance of typhus fever since he was a student. He referred approvingly to the arrangement whereby the public health medical officer was not a private practitioner. The new hospital is situated some distance to the west of the burgh. It has a southern exposure and has nine acres of ground attached to it. The total cost will be about £50,000, of which £4000 has been paid for the site. The buildings are of brick and consist of an administrative block, an isolation block, four ward pavilions, a patient discharging block, a blanket and clothes block, a disinfecting and laundry block, and a mortuary, &c., block. At the gatekeeper's lodge there are rooms for the reception of patients' friends, where their outer garments are deposited, and they are provided with a hospital mantle in which they may visit their friends, and another room in which this is deposited before resuming their own garments. The administrative block is so arranged that the staff and nurses gain ready access to the wards, while the other staffs cannot get beyond the portion belonging to them. The whole building is heated by hot pipes. The isolation block is for special and doubtful cases. The four ward pavilions each contain a male and a female ward, each ward having accommodation for ten patients, each patient having 2000 cubic feet of space and about 200 superficial feet of floor. In addition to the main wards there are two smaller rooms which may be used as private wards when required. Each ward has a bathroom and other conveniences attached to it. There is also a nurses' room attached to each ward, which commands a view of the ward, is in connexion with each patient's bed by means of an electric bell, and with the administrative department by telephone. Much provision has been made for thorough ventilation. In the discharging block there are unrobing, bathing, and re-robing rooms. In the laundry and disinfecting department much attention has necessarily and successfully been devoted to the cleansing and disinfection of clothing; the disinfector is the latest pattern of the Washington-Lyon disinfector. The hospital may fairly be considered as an excellent example of what recent sanitary science has produced, and promises to be satisfactory and efficient in its construction and arrangements. The outside of the building is plain and unpretentious, no unnecessary outlay having been made upon its external adornment.

Glasgow Samaritan Hospital.

The new buildings of the Glasgow Samaritan Hospital for Women were formally opened by Lady Bell on the 9th inst. The building is situated in Victoria-road, on the south side of the river, and at present, at all events, has a considerable open space all round it. It is constructed of red stone and has a handsome appearance. The hospital block consists of two floors, on each of which is a ward capable of accommodating ten patients, with two smaller wards for two patients each. It is possible also to divide the larger wards as may be advisable. The arrangements for securing warmth and ventilation, and the bathroom and lavatory accommodation, are of the most modern type. At the opening ceremony attention was drawn to the fact that the hospital was opened practically free from debt, the outlay of nearly £11,000 having been met mainly by private subscription with a grant of £2000 from the Bellahouston trustees. The pathological department is, however, still incomplete and there is no proper laundry equipment. These responsibilities, together with the duty of securing some of the vacant land round the hospital so as to preserve its amenity, are still before the directors. In honour of the opening ceremony it has been decided to name one of the wards the "Lady Bell" ward. A dedication service was conducted in the hospital by the Rev. McAdam Muir, D.D., minister of Glasgow Cathedral.

Glasgow and the British Association.

At a recent meeting of the city magistrates with some of

the University authorities, representatives of the Philosophical Society and other public bodies, it was decided to ask the British Association to select Glasgow as the place of meeting in 1898. The Lord Provost, Sir James Bell, Bart., was deputed to convey the invitation to the Association at its meeting at Liverpool during the present month.

Andersonian Naturalists' Society.

At a recent meeting of this society Dr. Bell Todd exhibited a number of micro-photographs of various botanical objects, together with their respective negatives, for the purpose of illustrating the value of a colour screen in bringing out details of structure. The screens employed were simply films of gelatin coloured orange and red and were fixed in the stage of the microscope between the object to be photographed and the source of the light. The improvement in the results was generally recognised.

The Rating of Asylums.

The valuation court for the upper ward of the county of Renfrew has recently disposed of an appeal by the Govan Lunacy Board against the valuation of £2060 put on the asylum and house at Hawkhead. It was contended on behalf of the board that though the building now in course of construction was nearer completion than it was last year the number of blocks occupied was the same as last year and there was no increase in the number of patients. Hence it was argued there should be no increase over last year's assessment—viz., £1500. To this the assessor replied that the principal cause of the increased valuation was the completion of the administrative block, and as no part of this building must be used for patients the argument based upon the number of patients did not apply. This view the court adopted, dismissing the appeal and confirming the increased valuation.

The Importation of "Greened Peas."

The Glasgow Chamber of Commerce some time ago passed a resolution deprecating the encouragement of the importation of preserved peas tinted with copper sulphate, and this resolution was communicated to the London Chamber of Commerce. The London Chamber replied taking exception to the resolution and asking for its reconsideration. This communication was brought before the Glasgow Chamber on the 14th inst., and after discussion the Chamber decided to adhere to its former view.

Glasgow Cancer Hospital.

The directors have decided to appoint an additional surgeon and also an assistant surgeon. Applications must be sent to the secretary on or before the 21st inst.

Sept. 16th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Changes in the Dublin Hospitals.

As has been already noted, Dr. Martin Dempsey, lately assistant physician to the Richmond Hospital, has been appointed assistant physician to the Mater Misericordiæ Hospital. The vacancy at the Richmond Hospital has just been filled by the appointment of Dr. Coleman, recently physician to Jervis-street Hospital. There remains now a vacant appointment for a physician at the latter institution. Jervis-street Hospital was at one time one of the foremost of our clinical hospitals and occupied a prominent position as a high-class surgical and accident hospital, though of comparatively small size. It owed this prominence to the fact that it was situated in a business part of the city near the river dock, and just in the centre of the purely mercantile and most densely populated part of the town. It was entirely rebuilt some ten years ago, but the governors, instead of replacing the old dirty, inefficient, and out-of-date infirmary by a modern, well-endowed, and thoroughly equipped accident hospital, made the grave mistake of building on the same site and at great expense a very large institution with many wards for the reception, not alone of surgical cases, but of medical and even of fever cases. The consequence has been a decadence of the hospital both in the opinion of the general public and in that of the medical profession. Its funds have failed to suffice to keep its beds open, while the reputation of Jervis-street Hospital as one of the best of the surgical hospitals in Dublin has gradually disappeared. The debt has, however, at last been almost repaid, and there is now a prospect of its regaining its original position as a first-class clinical hospital.

Another Epidemic of Beri-beri.

A note appeared in these columns some time ago in which the dangerously overcrowded state of the Richmond District Lunatic Asylum was described and the danger of a recurrence of such another outbreak as took place last year was pointed out. The auxiliary hospital at Portrane has been at last commenced, but the disease beri-beri, that acknowledged Eastern outcome of dirt and overcrowding, has again broken out in the wards of the Richmond District Lunatic Asylum, twenty cases being at present under treatment there.

The New Mater Infirmorum Hospital, Belfast.

It is expected that in June, 1897, this most efficient hospital will be completed. It is being erected from the design of Mr. Fennell, M.R.I.A.I., and the buildings occupy a good open site on the Crumlin-road on the Carlisle-circus side of the county gaol. The site has a frontage of 230 ft. to the Crumlin-road and occupies an area slightly over one acre. The hospital is built on the "pavilion" system, the central one being for administrative work, the pavilion on the east being for males and that on the west for females. On the two upper floors of the centre block there are a large number of private wards for such patients as may want to take advantage of them. The hospital is planned for 137 beds and 8 cots for children, and for each bed there are allowed slightly over 1300 cubic feet of ward space, 9 feet of wall space, and 100 square feet of floor space. The nurses' beds and dayrooms are in the administrative block, which contains on its ground floor the reception-rooms, offices, and rooms of the resident medical officers. The entire building will be illuminated by electricity, the heating will be by low-pressure hot-water circulating through radiators, and there will be garden roofs, where the patients when convalescent can enjoy the purest air and sunshine. When finished the Mater Infirmorum Hospital will be most complete in every detail and a great advantage to the city of Belfast.

The Transfer of Lunatics from the Belfast Asylum to the Workhouse.

As at several inquests on the deaths of lunatics in the Belfast workhouse allegations were made that their removal from the asylum to the workhouse had an effect in hastening the death of these patients, the board of governors of the asylum asked that the inspectors of lunacy should hold an investigation on the matter. The report of the inspectors who held this sworn inquiry has just been made public and it completely upsets all these charges. The inspectors, dealing with the circumstances connected with the three cases which they were asked to inquire into, say it would appear that for some considerable time past on the death of any lunatic transferred from the asylum an inquest has been held at which the coroner has animadverted strongly on the injustice done to the insane by thus transferring them from the asylum to the workhouse. As arising out of these statements and verdicts public odium was likely to be raised against the management both of the asylum and the workhouse, the Board of Governors were anxious that a full inquiry should be held. The inspectors went fully into each case. In the first, in which the jury in their finding say "that the transfer in the present case contributed to hastening the death of the deceased," the inspectors report that according to the evidence the transfer to the workhouse did not in any way contribute to hasten her death. As to the second case, the inspectors find that, according to the evidence of the workhouse medical officer, the patient died from a stroke of paralysis i.e. from perfectly natural causes. In the last case, in which the jury said that "his transfer from the district lunatic asylum contributed to the hastening of his death," the inspectors find that all the evidence goes to show that this was a suitable case for workhouse care, as the patient was harmless and incurable, giving little trouble; and that by no possibility could the transfer have accelerated his death, and that his transfer was effected with due care. Finally, the inspectors in their report state: "We are disposed to agree with the medical evidence, which went to prove that all these cases were properly removed to the workhouse and that their deaths were in no way accelerated by such transfer." Further, the inspectors think it unfortunate that at the inquiry no evidence was forthcoming from the asylum case-books of the condition of the cases when entering or leaving the asylum, and they think such notes should be kept.

The medical officers of the asylum stated that they knew every symptom in the cases, and that at the time of entry of the patients into the asylum they are carefully examined, and on turning up their registered number details of their case can be found. Unfortunately, owing to the transfer to the new buildings at Purdysburn, the notes of one of the cases were delayed in their production. It would seem that the notes of the best cases are kept, and the inspectors suggest that this should apply to all the cases. The medical officers think that with 800 patients to look after to make a record of every one of these day by day would not be possible. If this is so, probably the best way out of the difficulty would be to increase the staff. The finding of the inspectors is a complete answer to the coroners' juries, and its value is increased by the report of the inspector (Mr. Courtney), who visited the lunatic department of the Belfast Workhouse on Aug. 7th, and who states that "the accommodation provided here [Belfast Union Workhouse, lunatic department] is certainly on a much more liberal scale than that set apart for the use of the lunatic and imbecile inmates in any other workhouse in Ireland." This report of the Inspector of Lunatics was read at a meeting of the Belfast board of guardians on Sept. 8th.

The Cork Women and Children's Hospital.

Considerable structural improvements were recently made in the Cork Women and Children's Hospital, and as the committee found they had incurred a debt of £2000 they decided on making an effort to relieve their financial embarrassment. Accordingly they took steps for holding a very extensive bazaar called "Wonderland." There was quite a varied programme of entertainment and the initial expenses alone amounted to £1000. His Excellency the Lord-Lieutenant graciously signified his intention of opening the bazaar, and, accompanied by the Countess Cadogan, he performed the ceremony in the presence of a very fashionable attendance. His Excellency in an appropriate speech expressed his sympathy and that of the Countess with the objects of the charity; and as politicians of every varied shade of thought regard his Excellency as a nobleman who takes a lively interest in the general welfare of the country his patronage tended materially to promote the success of the bazaar. Though the weather was somewhat unpropitious quite a throng of people attended, especially at night, and it is generally expected that the net result will be the addition of a considerable sum to the resources of the institution.

Contributions by the Royal Irish Constabulary to Medical Charities.

The Royal Irish Constabulary stationed at Cork contributed to the entertainment of the citizens by organising a very successful meeting for athletic sports in the park. A special feature of the day was the presence of the excellent band of the Constabulary from the depôt. The attendance was very large, and after paying expenses the promoters found that they had a sum of £305 to dispose of. They allocated it as follows:—Widows' and Orphans' Fund of the Force, £100; North Infirmary, £25; South Infirmary, £25; Women and Children's Hospital, £25; Eye, Ear, and Throat Hospital, £25; Mercy Hospital, £25; Fever Hospital, £20; St. Vincent's Hospital, £20; Protestant Incurable Hospital, £20; and St. Patrick's Incurable Hospital, £20. The Constabulary are to be congratulated, not alone on the success of the athletic meeting they inaugurated, but also on the generosity they displayed towards the local medical charities.

Sept. 16th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Professor Palmieri.

THE science or sciences that deal with the earth's crust in movement and repose have lost a very able votary in the Director of the Vesuvian Observatory, Professor Luigi Palmieri, who died on the 9th inst., aged sixty-nine years. In seismology, the honour of developing and systematising which he shares with the late Padre Denza, of the Vatican Observatory, and the Count Michele di Rossi, he was an acknowledged master; while in meteorology and climatology he contributed greatly to their preciser and wider knowledge by numerous papers in that mine of industry and research, the "Annali dell' Osservatorio Vesuviano." Not only on the theoretical side of these subjects did he evolve many ingenious and suggestive ideas, but as a practical worker he added more than one valuable instrument to the scientific armoury—notably his "electrometer for the observation of atmospheric electricity," his "pluviometer" (or rain gauge), his "seismometer," and suchlike. Such a revolution did he effect in the domain of terrestrial physics that in his hands it became almost a new science, in recognition of which the University of Naples founded a chair for its teaching and made him its first professor, while at the same time he was appointed Director of the Physical Observatory in that city. A first-rate mathematician, his training in exact science formed an admirable prelude to his physical and natural history studies, and (such was his many-sided capacity) he was able to lecture *ad interim* on moral and metaphysical philosophy when Baron Galluppi, the distinguished interpreter of Kant to his compatriots, ceased to hold that chair. But his real post was at the Observatory on Mount Vesuvius, whose eruptions he described with scientific lucidity and classic elegance, and all of which for the last forty-two years he personally witnessed, often, as in the memorable one in 1872, at the risk of encountering the fate of the Elder Pliny. He was courtesy and kindness itself to English-speaking visitors—to none more than to those of the medical profession, as can be attested by not a few who explored the Neapolitan Riviera after the International Congress of Medicine and Surgery held at Rome in the Easter of 1894.

Getting Rich "by Degrees."

Three years ago the sale of bogus degrees had reached proportions in Bologna which incurred the intervention of the police, and their manufacturer is still, I believe, serving his time in one of the local prisons. But the summary example made of him has not, it would appear, proved much of a deterrent. At least, from information gathered in Italy the "industry" is still a paying one, if the number of "graduates" whose scholastic record is rather dim may be received as a test. This time the University which confers the "summi in medicina honores" is not Bologna, but Berne, whose "sigillum magnum" was stolen, or in some way got at, so as to be counterfeited to perfection. The alleged thief or forger has been arrested, but the *corpus delicti* was not found in his possession and is still to seek. So the world is not yet safe against the illicit creation of graduates (medical and other, but chiefly medical), of whom, it seems, there are already about 250 vaunting themselves "laureati" of the leading Swiss University! Scandinavia and Germany boast the majority of such "graduates," while there are some fifty or so practising in (or "on") the English-speaking public in both hemispheres. The rest are chiefly to be found in Italy, Austria, and the East.

Mushroom Poisoning.

Italy is greatly in want of a handy book or chart indicating the edible and non-edible fungi. So far as I know she possesses nothing like that excellent descriptive treatise on the subject compiled by Mr. Plowright and noticed in THE LANCET of Feb. 25th, 1893. The consequence is that even among the educated middle classes the consumption of poisonous mushrooms is of frequent, often of fatal, occurrence, as, indeed, a glance at any urban or provincial Italian newspaper will suffice to show. I open one of these and find that at Cadignano, in the Brescian province, a respectable family, nine in number, has just lost seven of its members by the ingestion of mushrooms belonging to the variety called "ovolus" in Italian classification, and resembling in size and form a hen's egg. The tenesmi preceding the death of the victims are described as "agonising," the stomach-pump having been applied too late, and the usual remedies (emetics, catharto-emetics, demulcent draughts, and ether in strong doses) proving inert or inefficacious. I turn to another paper and read, this time in Piedmont, of a family consisting of father, mother, and four children, ranging from six to eleven years of age, and an uncle of these having eaten heartily of mushrooms and, not till some days afterwards, succumbing to their effects. Grave intestinal disturbance, increasing as to intensity, followed the meal, till first the children died, then the uncle, and only the parents (thanks to constitutions exceptionally robust) survived. The necropsy proved the cause of death to have been "mushroom poisoning," but the description of the fungi is not given. In the large cities (Rome, Florence, Naples, and Milan, for example) the sanitary officers continually impound unwholesome mushrooms

exposed for sale, but those which caused the tragedies above referred to had been freshly gathered. Another warning to the British tourist in Italy when wandering out of the beaten (that is, the civilised) path to be very careful of what he eats at village *osterie* or mountain inns.

Sept. 12th, 1896.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Medical Study in Austria.

MEDICAL study and life are so different in England and Austria that it will perhaps be of interest to the readers of THE LANCET to know how their Austrian colleagues are educated, how they pass their student career, and what examinations they have to undergo. At the age of ten years the boys intended to become university students commence their general education in a State-supported school called a gymnasium, where not much attention is given to either natural history, physics, or chemistry. After an eight years' course the youth has to pass the *Reifeprüfung*—a severe examination, at which the Government is represented by a commissioner—and he is then at liberty to enter the University and to decide which faculty he will join on showing his certificate and paying his matriculation fee of 10*s*. Medical study in Austria lasts five years; during this time the student has to attend classes in medicine and surgery four half-years each, and classes in anatomy, obstetrics, and ophthalmology one half-year each. Lectures are delivered five times a week: for those which last one hour there is a fixed fee of 10*s*. 5*d*. a half-year. There are preliminary examinations in zoology, mineralogy, and botany, which may be passed during the first half-year, the fees for each of these three subjects amounting to 12*s*., or £1 16*s*. in all. After the lapse of two years the student is admitted to the first *Rigorosum*, an examination which consists of a practical and an oral part, the former portion comprising anatomy and physiology, and the latter including anatomy, physiology, chemistry, and physics. The fee for the whole examination is £4 12*s*. Candidates rejected in a practical examination must wait four months; those who fail in one subject of the oral examination must wait two months, and those who fail in two subjects have to repeat the whole examination. The student is admitted to the second and third examinations (which are called the second and third *Rigorosum*) only after five years, when he is in possession of the so-called *Absolutorium*, wherein is testified that he has attended the above classes. The fees for the second and third examinations amount to £5 and £5 8*s*. respectively. The practical part of the second examination comprises internal medicine and pathological anatomy. In the former subject the candidate has to describe the condition of the patient and the results of auscultation and percussion; he has also to diagnose the nature of the case and prescribe appropriate treatment. Pathological anatomy has now become one of the most difficult subjects of examination, for according to the new regulations an extensive knowledge of pathological histology will be required. The theoretical part of the second examination is taken up with pathological anatomy, internal medicine, pharmacology, and experimental pathology; there are also additional examiners in diseases of children, laryngology, or otology. The third examination consists of practical examinations in surgery, obstetrics, and ophthalmology, and theoretical examinations in these three subjects and in forensic medicine; there are also additional examiners in either syphilis or dermatology. After having passed this examination the student obtains his diploma of M.D., for which he has to pay £5 6*s*. There are thus four medical examinations—namely, the preliminary, and the first, second, and third *Rigorosum*. Although the teachers are excellent and the examinations searching the new-made M.D. is deficient in practical knowledge. He has, indeed, while a student witnessed the various stages of making a diagnosis and has seen a great many operations performed, but he has not been permitted to approach the patient himself and his practical training has still to be acquired, for which purpose he enters a clinic as assistant physician. In the department of practice of medicine there is no difficulty in obtaining such an appointment, but, on the other hand, there are only a few men who are fortunate enough to become so-called "operating aspirants" in a surgical or obstetrical clinic, while their less favoured brethren have to attend practical courses in order to extend their knowledge of those two subjects. The period that elapses from a young man's entering the university until he starts in practice is, as a rule, eight years. Many students, however, become inattentive to their work and drift into "Bohemianism," either from the influence of the various convivial associations or through financial difficulties. Of the students' associations a great many are purely Teutonic, some are Slav, and some are Jewish; during the last two years some students have joined the first Vienna football and cricket club. Living in Vienna is not expensive; for many years there has been a *mensa Academica*, where poor students are provided with dinner free of charge, while those who are better off have to pay 18*s*. a month for dinner and supper.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Influenza and the Female Organism.

THE last issue of the *Orvosi Hetilap* contains an interesting communication by Professor G. Engel of Kolozsvar on Influenza and the Female Organism. We know clinically four types of influenza—viz., the febrile, the nervous, the catarrhal, and the gastric. The two former types were the more commonly observed in women. It is to be noted that the disease not infrequently attacked the female generative organs. In addition to an increased loss of blood during the menstrual period and sometimes marked sensibility along the uterine appendages, there was also a considerable aggravation of the symptoms in cases of pre-existing acute or chronic inflammations of the womb. The effect of influenza on pregnancy was very unfavourable. Professor Engel knows of no other infectious disease which so often causes premature expulsion of the ovum as influenza. He observed miscarriage most frequently in the first three months of gestation. In cases where pregnancy went to full term the duration of labour was prolonged and the involution of the uterus was retarded. Influenza after childbirth may to some extent simulate puerperal sepsis.

Delivery through a Central Rupture of the Perineum.

This case, described by Dr. N. Liszt in a recent number of the *Gyógyászat*, is well worthy of being recorded. The patient, a primipara aged twenty years, was at her confinement attended by her mother, who was a qualified midwife. According to her statement labour pains came on at midnight. The time of the rupture of the membranes was unknown. The next day, at 1.30 P.M., the perineum began to bulge and two hours later it gave way at its centre, the child's left hand prolapsing through the rent. The mother then sent for medical aid and in the meantime made desperate efforts to keep back the protruding fœtal parts. She did not succeed, the strong uterine contractions expelling first the arm and then successively the trunk, the breech, and the lower extremities of the child (just as in a case of spontaneous evolution). However, she was "successful" in arresting the progress of the after-coming head during an hour and a half until medical aid arrived. She had kept the child's head back for fear that "the bowels might fall out." It was quite easy to extract the head. The placenta was expelled through the same channel. There was no haemorrhage. The child was at full term, and was dead, as a matter of course. The rent in the perineum had the form of an arch, with its convexity looking backwards. It was situated one centimetre in front of the anal opening. The corresponding rent in the posterior vaginal wall ran vertically downwards from the fornix close to the fourchette. This and the anus remained intact. The wound was carefully cleansed and sutured, a small canal having been left to allow of drainage with iodoform gauze, and it healed firmly, but a narrow vagino-perineal fistula remained, which only closed after some applications of a concentrated solution of nitrate of silver.

Sept. 16th.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

The International Medical Congress: The Section of Surgery.

THE following questions will be discussed in the Section of Surgery at the International Congress in Moscow next

year:—1. The Treatment of Infected Wounds (paper by Dr. Braatz of Königsberg). 2. Methods of Treating Malignant Tumours without Operation, and in particular their Treatment by Serum. 3. The Surgery of the Brain in cases of Cerebral Tumour and Jacksonian Epilepsy (paper by Professor Bergmann of Berlin). 4. The Surgery of the Lungs, particularly in cases of Phthisical Excavation and Gangrene (paper by Professor Tuffier of Paris). 5. The Treatment of Malignant Stricture of the Œsophagus, Pylorus, and Rectum; data of the different methods of interference (paper by Professor Czerny of Heidelberg). 6. Gonorrhœal and Syphilitic Affections of Joints (paper by Professor Ollier of Lyons). 7. The Construction of Artificial Lower Limbs in Affections of the Joints, Paralyses, Congenital Dislocation of the Hip-joint, and after Amputation (paper by Professor Döllinger of Budapest).

Professor Erismann's Resignation.

Professor Erismann's resignation of the chair of Hygiene in the University of Moscow has caused universal regret. It will not, it is hoped, involve his retirement from the general secretaryship of the International Congress.

The Czechs and the Congress.

The fact is announced, but without any reason being assigned for it, that the desire of a number of physicians and surgeons of Czech nationality to form a national Czech committee in connexion with the Congress on the lines of the committees formed by other European nations has met with refusal on the part of the Moscow committee. A long letter from Dr. Semerod of Prague is published in this week's *Vratch* calling attention to the claims of the Czechs to be regarded as a distinct nationality and to the unfairness which is usually done to them in regarding them as a mere offshoot of the German race. The letter contains a long extract from an article in the *Casopisu Lékarův Ceskych*, or Czech medical journal, in which these views are very strongly expressed. This journal is the organ of the Society of Czech Practitioners, a society containing upwards of 1000 members resident in Bohemia, Moravia, and Siberia, and including all the professors in the medical faculty in Prague University. It was a committee of this society which approached the committee of the International Congress in Moscow requesting consent to the formation of a Czech national committee; but, as already stated, the request has met with a refusal.

The University of Tomsk, 1888-1895.

The recently published report of the University of Tomsk for the year 1895, the eighth year of the University's existence, contains some interesting details concerning the students who have passed through the medical faculty during those years. In that period 413 students have begun their medical curriculum, but only 151 have obtained the diploma of *vratch* or medical practitioner. The number of diplomates appears to be increasing; last year alone 54 students, or more than one-third of the total for the eight years, obtained the qualification. That a large number of students, however, still leave the university before completing the course is shown by the fact that while in 1890 there were 117 first-year students who should in the ordinary course of events have completed their curriculum last year, only 64 did so. Of this number 3 did not present themselves for examination, 7 failed to pass, and 54, as already stated, passed successfully. Some interesting facts are also given as to the source whence this far-away Siberian University draws its students and the ultimate fate of its medical graduates after leaving their *alma mater*. For some reason not stated it seems that by far the larger number of medical students in Tomsk are sons of the clergy (255 out of 413); 67 were sons of "nobles" and "*tchinovniks*" (government officials); 62 sons of merchants; 19 of peasants; 7 of soldiers, and 3 of foreign parentage. Divided according to religious creed, out of the same total 372 were orthodox, 1 was a Dissenter, 11 were Roman Catholics, 2 Lutherans, 2 Jews, and 1 Mahometan. Of 742 who have entered the University in the eight years' period, 330 came from seminaries (religious schools) in the Volga basin; only 204 from Siberian *gymnasia*, and 48 from Siberian seminaries, while 160 came from seminaries in various parts of European Russia. Of the 151 medical graduates 87 have remained in Siberia; of these 50 are in Western Siberia, including 15 *laborants*, *ordinators*, and *assistents* in the University itself; 26 are in Eastern Siberia, 9 are attached to the new Trans-Siberian Railway, 1 is in the naval and 1 in the military service. The remaining 64 graduates are in different parts of European Russia, with the exception of 2 who left the profession, 3 who died in Siberia, 1 who died soon after graduating, and 13 whose whereabouts is unknown. It appears from the report that pulmonary phthisis is unusually prevalent among the students of the Tomsk University. This is ascribed to the bad climate of the place and to the unfavourable economic conditions under which the students live. Most of them are of poor parentage, and both their lodgings and food are inferior to what they should be. The university authorities endeavour to transfer students showing tuberculous symptoms to one of the universities in European Russia, but to do so requires permission from the Ministry of Education in St. Petersburg, and sometimes, presumably owing to the great distance of Tomsk from the capital, the permission arrives too late to be of any service. In two instances the permission arrived only after the student's death.

General News.

The existence of leprosy in the government of Astrakhan is officially recognised, and the Governor of Astrakhan has advised the local authorities to construct a *leprosorium*.

It was recently reported that another instance of wholesale poisoning by koumiss had occurred. In the town of Jeleznovodsk, one of the most important of the Caucasian group of summer watering-places, it was said that fifty people had shown serious symptoms of poisoning after drinking koumiss. The *procurator* of the Tiflis law-courts has been sent to Jeleznovodsk to investigate the matter.

The tenth congress of Russian Naturalists and Physicians will be held in Kief next year, between August 21st and 30th (Sept. 2nd and 11th, New Style). It will therefore immediately follow the International Congress in Moscow.

In Central Asiatic Russia there are already two medical societies, in the towns of Marghilan and Askhabad. In Tashkent, the largest and most important Russian town in Central Asia, there is at present no such society. There are some forty qualified practitioners in Tashkent.

A considerable number of cases of anthrax, or Siberian plague as it is called in Russian, have occurred this summer in the neighbourhood of St. Petersburg. Both horses and horned cattle have contracted the disease and some fatal cases have occurred among human beings. Stringent measures have been taken to stamp out the disease.

The Jenner Commemoration, organised by the Russian National Health Society, which was put off from May on account of the Coronation, will probably be held in November. It has been found impossible to hold it, as at one time suggested, on Oct. 12th (24th), as it would clash with other Imperial engagements at that time. Nov. 21st (Dec. 3rd) is now spoken of as a possible date, but nothing is yet fixed.

St. Petersburg, Aug. 30th (Sept. 11th).

Obituary.

SURGEON-GENERAL SIR W. J. MOORE, K.C.I.E.,

HONORARY PHYSICIAN TO THE QUEEN.

WE much regret to have to record the death of this officer on Wednesday, the 9th inst., at the age of sixty-eight years. The late Sir William Moore was a man of energy and ability, and had passed a long, useful, and distinguished career in the Indian Medical Service. His family lived at Worcester. He became M.R.C.S. Eng. in 1849 and L.R.C.P. Edin. in 1859. He entered the Bombay Medical Service in 1852 and was advanced to the rank of Surgeon-General in 1885, and in 1888 he was made K.C.I.E. in recognition of the services he had rendered. Surgeon-General Moore served in the Persian War of 1856 and 1857, was General Superintendent of the medical institutions in Rajputana for many years, and Surgeon-General with the Government of Bombay until 1888, in which year, as we have said, he was knighted. Sir William Moore was not only the author of several works dealing mainly with tropical climates and Indian diseases, but he took a lively and decided part in some questions of a controversial character, such as the opium dispute and the lock hospital system in India in connexion with the great prevalence of certain contagious diseases in the European army stationed in that country. He had no difficulty in

proving that there was another side of the opium question than that which had been put forward with much emphatic exaggeration; and on the subject of legislation in connexion with contagious diseases in India he held very strong opinions, which he advanced with boldness and decision. Sir William Moore, among his other works, published "A Manual of Family Medicine and Hygiene for India," which went through five editions, and "A Manual of the Diseases of India," of which a second edition has been published. These were popular and useful works, in which their author not only laid down what to eat, drink, and avoid, and how generally to regulate life in India in order to escape the diseases of that climate, but he also stated with clearness the practical principles of their recognition and treatment.

JOHN JONES MERRIMAN, M.R.C.S. ENG., M.S.A.

BY the death of Mr. John Jones Merriman a long line of Kensington practitioners and a still longer one of "apothecaries" comes to an end. If ever there was a family in which the profession of medicine was hereditary it is surely the one to which the deceased belonged. Reference to vol. xxxvii. of the National Dictionary of Biography will show nine descendants of Nathaniel Merriman, who all followed the profession of medicine, while the tenth married her cousin, a physician, and in due course became the mother of a son who followed the same profession. John Jones Merriman, like his father and grandfather, practised in Kensington, where he attended all classes, from the dwellers in the Palace to those in the rookery which used to stand where now is Kensington-court. He was born in 1826 and qualified as a Licenciate of the Society of Apothecaries in 1848, and Member of the Royal College of Surgeons of England in 1849, receiving his medical education at St. George's Hospital. Some few years ago he sustained a severe loss by the death of his son, who had just become his partner. In 1895 he retired from practice and was presented with £1000 as a mark of regard, the testimonial being subscribed to by every class of patient. On leaving London he went to live at Worthing, where he died on Sept. 8th, aged seventy years. John Merriman was a well-known figure in Kensington and the beau ideal of a successful general practitioner of the old school. He, like Sir Henry Halford, was the eminently "comfortable doctor," one who had the art of relieving his patients. Although he has been absent from Kensington for more than a year the news of his death will come as a great sorrow to his old patients, for he has been a living part of Kensington for nearly fifty years.

HUGH ROBERT CAMPBELL BARBER, M.B., B.CH. CANTAB.,

SURGEON-CAPTAIN, I.M.S.

THE death is announced by telegram of this able young surgeon on Aug. 30th, through fever caught in a pestilential district under his care at Murree, Bengal. The perils consequent on the conscientious discharge of professional duty cannot be more painfully revealed than by an instance like this, where a career is prematurely closed at the age of thirty-two which might have commanded the highest honours awarded to general and professional ability. Surgeon-Captain Barber's professional and scholastic career was particularly brilliant. Educated at Epsom College, he gained the school scholarship and every other prize in succession. He matriculated at the London University in second-class honours, and had a special prize of £5 awarded him from the University as the youngest candidate who had passed so high. He next obtained the Gilchrist Scholarship and the Clothworkers' Exhibition, and also the St. Bartholomew's Exhibition, which entitled him to a free hospital course. Proceeding to Cambridge University he gained an open scholarship in mathematics at St. Catherine's and took his degree of B.A. in the second class of the Natural Science tripos, and graduated in medicine. Two years were passed in general practice, after which he was successful in a competition for a commission in the Indian Medical Service. From Netley, out of which he passed with credit, he was sent to the Bengal presidency, and spent two and a half years with native regiments, passing the examinations in Hindustani, Afghan, and Pashti, and before the usual time was appointed civil surgeon at Sialkote and afterwards at Murree. He was a good German and French scholar and very advanced in the study of Persian.

Surgeon-Captain Barber was the eldest son of the Rev. Henry Barber, M.D. St. And., Master of Ravenstone Hospital, Ashby-de-la-Zouche, and leaves a young widow and a numerous circle of attached friends to mourn his loss.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent medical men are announced:—Dr. Anton Rosner, Professor of Dermatology in the University of Cracow, suddenly, of cardiac disease.—Dr. Lagneau, the well-known writer on public medicine and Member of the Paris Academy of Medicine, at the age of sixty-nine.—Dr. Josef von Kerschensteiner of Munich, at the age of sixty-five. He held a high position in the Bavarian Department of Public Health, and had written both on that subject and on purely clinical topics as well as on the History of Medicine, a matter in which he took great interest.

THE FOURTH INTERNATIONAL CONGRESS OF CRIMINAL ANTHROPOLOGY.

(FROM OUR SPECIAL CORRESPONDENT.)

(*Continued from p. 791.*)

M. A. LACHENAL'S inaugural address was a brilliant review of the three previous Congresses—that at Rome having startled the lay and especially the legal world with the thesis that there are born criminals and that there exists a criminal type anatomically determined; while its successor at Paris strengthened this position by insisting not only on the anatomical but still more on the physiological "conditions precedent" of crime, which conditions, so interpreted, yield "a biological and moral portrait" set in the social background in which the criminal lives. At Brussels the juristic view of the question intervened, and while admitting a "natural history of crime" sought to furnish an eclectic theory of the phenomenon in which biology and law were equally represented. To-day in Geneva the discussion is resumed, and whatever modifications these provincial solutions of the problem may yet undergo their effect must be to impress both parliaments and peoples with the necessity of "raising a penal system which, without confounding the prison with the hospital, will recognise a moral clinique as well as a repressive code," and so tend to "eliminate the elements which are unfit for social life and dangerous to humanity."

M. Dunant followed with a discourse in which the difficulties that beset the subject and the corresponding admonitions of caution in accepting conclusions as well as of care in leading up to them were enounced with masterly skill; while M. Turrettini, speaking as an engineer, indicated the need of accuracy in collecting and sifting data in a science which can never be called "exact," but which none the less deals with problems which society cannot ignore and must attempt to solve if it is to progress at all.

Dr. Ladame, who had been honorary president of the congresses at Paris and Brussels, was next by acclamation elected to preside over this now sitting at Geneva, and in the course of his preliminary remarks congratulated the meeting on the presence of the representatives of the Italian school who had abstained from assisting at the Brussels Congress, and also on the appearance of delegates from the British Government, which for the first time had recognised the subject of criminal anthropology and taken part in its international discussion. Having dwelt on the losses sustained since the last congress by the death of James Moleschott, of Carl Vogt, of Dr. Albert Bournet, Dr. Henri Contagne, Dr. Brunnen-Meister, Dr. Cornaz, and Dr. Somale—the latter having been President of the Congress at Brussels—Dr. Ladame proceeded to announce the composition of the committee of the Congress, after which the practical business began with the afternoon sitting.

At this Dr. Gosse presided, and an interesting discussion was initiated by Professor Lombroso of Turin in a paper on the Progress of Criminal Anthropology and Sociology since 1890. Though he expressly declined to formulate a theory, the Italian physician was declared by Dr. Naecke of Leipzig

and Professor Dallemagne of Brussels to have virtually reaffirmed the doctrine he was believed to have partially abandoned, in opposition to which Dr. Naecke denied the existence of the "born criminal" on the ground of observations he had amassed in Germany; while Professor Dallemagne put the question to Dr. Lombroso "whether he still maintained that there exists an anatomical type outside which there is no criminal and which suffices of itself alone to characterise the criminal." This precise interrogatory aroused a perfectly courteous while highly animated debate, in which, besides the speakers already named, Dr. Forel of Zürich, Professor Bechterev of St. Petersburg, and Dr. Ferris (Professor Lombroso's most representative disciple) took a prominent part. The arguments on either side were ingenious and effectively put, but neither side was able to claim the victory, not even a compromise being arrived at. Dr. Ferri, however, amid general applause, affirmed that the Italian school, in speaking of the born criminal, has no intention of creating an exclusively anatomical type out of the same; the criminal, he contended, is a "complete personality, at once biological, psychological, and social. Criminality is the resultant of a triple order of factors—the anthropological factor, the 'facteur de milieu physique,' and the 'facteur de milieu social.' A man may be born with the 'stigmata' of criminality and yet die without having ever committed a crime; if he has found 'dans son milieu' a sufficient resisting force. *Vice versâ*, a man may find in his hereditary antecedents the resisting force required." Professor Dallemagne declared himself satisfied with these positions as formulated by Dr. Ferri, while remarking that they were at variance with the Italian theory as originally propounded.

The afternoon sitting of Tuesday, Aug. 25th, more than confirmed the impression produced by that of the forenoon, that the chief—I had almost said the dramatic—interest of the proceedings would find its culmination on that day. The Italian phalanx had assembled in great force, and included such well-known lights in medicine as Romiti of Pisa, Marro of Turin, Frigerio of Alessandria, and Cernelli of Rome, supported on the legal side by Anfosso of Cuneo, Bianchi of Milan, Laschi of Verona, Zuccarelli of Rome, and Materi of Naples—all prepared to applaud, and, if need were, to sustain by argument their champion, Professor Ferri, when he rose practically to re-open the controversy of the first day on the "Uomo-delinquente" or born criminal. His thesis was entitled "Le Tempérament Criminel," and in his hands it developed into a singularly animated, even impassioned, plea for the recognition by science and by the State of what he defined as a "bio-psychological personality, unable to tolerate present conditions of social existence, yielding to the impulses of a nervous system degenerate through physiological or physical hardship (*misère*) or unhinged by fanaticism or mono-ideism." In language at once clear, fluent, and forcible he proceeded to justify this definition in a manner peculiarly illustrative of the "absolute physiological determinism" which is the distinctive note of the Italian school. Crime, he contended, is always an anti-social act, disturbing, as it does, the conditions of existence of the collective mass at a given moment of its evolution. But, he proceeded, crime can disturb the actual equilibrium of the social life by reproducing "les formes ataviques" of the struggle for existence, or, indeed, with the object of anticipating new and higher forms of the said struggle. Hence, by direct consequence of physio-psychical determinism, we must strip the words "crime" and "criminal" of all sentiment of hatred and contempt. The recognised distinctions between "natural criminality" and "legal criminality," between "common crimes" and "political or social crimes," between "atavic or muscular criminality" and "evolutionary or intellectual criminality," are in some sort related to the distinction which might be made between the anti-social act which disturbs the existing order by reproducing old phases of social evolution (such act taking the form of murder, robbery, rape, &c.) and the anti-social act which disturbs the existing order by devising future phases of social evolution (rebellions, *émeutes*, strikes, conspiracies, &c.). Here, then, as the result of an exposition, set forth with fascinating felicity of phrase, assisted by all the arts of the orator, the Congress was once more face to face with the "bête noire" of the conservative school, as represented by the Russian, the German, the Belgian, and the French anthropologists. Not that the Italians were without sympathisers and even supporters among these nationalities; but it was felt that the counter-note was appropriately struck by Zakrewski of St. Petersburg when, in the name of logic, he protested against "associating the bio-psychological notion of temperament with the sociological notion of crime." A deed, he argued, may be considered as criminal under one civilisation and non-criminal under another. Let us without attempting conciliation at the expense of individual conviction choose grounds of study having a common principle on which it can agree. "Partons de tempéraments vicieux et non de tempéraments criminels." This attitude of the Russian anthropologist brought up in Professor Ferri's defence Professor Forel and Professor Lombroso, whose evidence was exceedingly interesting in favour of criminal temperaments showing themselves so precociously as to be explicable only on the ground of hereditary taint and congenital proclivity. Professor Lombroso's instances, in which the "tempérament criminel" was associated with epileptoid symptoms, was felt to be a cogent one; and Bechterev of St. Petersburg backed up Forel in supporting the thesis of innate criminality by an induction of cases drawn from the issue of alcoholic parents. On the other side, Dr. Bertillon of Paris cited from his great experience of infant crime a number of instances proving the educability of so-called "born criminals"—an educability so neglected by fathers and mothers, often with the consent of the family physician, as to explain of itself the phenomena sought to be ascribed to congenital criminality. Epileptics, he maintained, have *per se* no fatal predisposition to crime, but are quite remediable or educable if taken in time. Dr. Bertillon was thought by many to be giving his case away when he fell back on "educability"—a resource which Professor Lombroso insists on being invoked as soon as anthropometric tests have done their work on the infant or child; while Bechterev urged that education is powerless in cases of alcoholic deterioration, referring to a little girl, the child of dipsomaniacs, in whom education failed to elicit the slightest response of moral sentiment or even animal affection.

(To be continued.)

CANADIAN MEDICAL ASSOCIATION.

THE twenty-ninth annual meeting of this Association commenced its proceedings in Montreal on Aug. 26th.

WEDNESDAY, AUG. 26TH.

The meeting opened at 10.30 A.M. After an address of welcome to the 200 delegates and visitors in attendance, Dr. THOMAS G. RODDICK, Chairman of the Local Committee and President-elect of the British Medical Association, resigned the chair, which was then taken by Dr. JAMES THORBURN of Toronto, the President.

The first paper presented was a study of the Relation between Leukæmia and Pseudo-leukæmia by Dr. C. F. MARTIN and Dr. G. H. MATTHEWSON of Montreal. The conclusion was that as aberrant and abnormal blood-cells were found under varying conditions it was impossible to draw the line between leukæmia and Hodgkin's disease. The writers would group the anæmias under the designation "increased leucocytosis."

Subsequently the members visited the Montreal General Hospital, where a clinical demonstration was given. Dr. Francis Shepherd, Dr. A. B. Blackader, Dr. Wilson, and Dr. Hutchison were in attendance to point out the features of each case.

In the afternoon Dr. H. MEEK reported some interesting cases of Abdominal Section for unusual conditions. One was that of a man who had volvulus of the colon. All went well for ten days after the operation, and then the patient died maniacal without manifest cause.

Ophthalmia Neonatorum was dealt with by Dr. R. FERGUSON. Ten per cent., perhaps 20 per cent., he said, of the blind owed their misfortune to this preventable disease. Warm water and silver nitrate should be used in the treatment.—It was decided by the meeting to urge on the various boards of health to put this malady on the list of reportable diseases.

Dr. HARRISON of Selkirk brought up the subject of Heredity of Carcinoma, relating cases from an experience of over half a century.—A discussion followed, in which

Sir Wm. Hingston and some of the most prominent members took part, but nothing really new was brought out.

The President's Address.

In the evening the President delivered his annual address. Speaking of the death of M. Pasteur and the loss to medical science, he said that the great advance in the practice of surgery was due largely to the discoveries of the great scientists. During the past year medical science had sustained a great loss by the death of M. Pasteur, who might fairly be credited with having put the germ theory of disease beyond all doubt. His success in the treatmet of rabies was well known, and the knowledge that medical science had recently obtained respecting both the diagnosis and treatment of such diseases as hydrophobia, anthrax, tetanus, diphtheria, tuberculosis, Asiatic cholera, typhoid fever, and septicæmia had already been productive of good results, and was likely to do much more in the future. After a passing reference to vaccination and its discoverer, Jenner, the President alluded to the death of Dr. Fenwick and Dr. Saunders of Kingston, and Dr. Macfarlane of Toronto, three honoured members of the Association who had all died from septic poison received in the discharge of their duties. The important subjects of a common registration for the Dominion, or inter-provincial reciprocity, was next dwelt upon, and the opinion was expressed that the time had arrived when the obstacles in the way might be overcome by mutual concessions on the part of the different provincial medical authorities. On the question of a curriculum suited to the whole Dominion the President suggested a four years' course of eight or nine months instead of five years of six months and a summer session. The relationship of medical men to life insurance and the question of professional secrecy were also touched upon.

THURSDAY, AUG. 27TH.

The proceedings began with a "Roentgen Rays" demonstration, and work with the fluoroscope by Dr. GIRDWOOD of McGill University.

On re-assembling, Dr. PRICE-BROWN discoursed on Clergyman's Sore-throat, so-called. He stated that various conditions were concerned in this trouble. Nasal stenosis was nearly always present and must be treated.

Dr. WILKINS gave the address on Medicine. His text was Modern Treatment the Result of Experimentation.

Later in the day a visit was made to the Samaritan Hospital for Women, where Dr. Lapthorn Smith showed cases and performed four cœliotomies. A visit was also made to the Hôtel-Dieu, where Sir William Hingston delivered an address on Debatable Points in Surgery and showed cases.

Dr. MYERS showed a boy in whose case he had arrived at the diagnosis of Hereditary Cerebellar Ataxia.

The address on Surgery was delivered by Dr. JNO. STEWART. This dealt largely with the triumphs of Listerism.

The Hon. Dr. MARCIL spoke on Thyroidectomy, advising the removal of the gland when interfering with respiration. Myxœdema will result, but may be cured with thyroid extract.

In the evening the annual banquet of the Association was held.

FRIDAY, AUG. 28TH.

Dr. ROBINSON of New York gave the Etiology and Treatment of Acne. He considered this trouble to be local, and prescribed hot water, green soap, salicylic acid, &c., and lemon juice for comedones. Where boils occurred cod-liver oil should be given.

Professor WESLEY MILLS showed dogs and other animals from which the Motor Areas had been removed. The animals were able to normally move their limbs.

Dr. THISTLE, in speaking of Typhoid Fever, advised daily purges of calomel and Epsom salts, in the belief that the desirable thing was to get rid of toxins.—In the discussion Dr. OSLER of Baltimore said it was rash to purge in this disease.

At a visit made to the Royal Victoria Hospital Drs. BELL and STEWART demonstrated various cases of Thoracic Aneurysm, Brain cases, Floating Kidney, &c. A Bullet in the Brain of a Child was shown by means of an "x" ray photograph. An interesting case was that of a girl with Multiple Peripheral Neuritis, with paralysis and great wasting, the disease being attributed to medical prescription of alcohol for a previous trouble.

After lunch Dr. J. F. W. ROSS of Toronto gave the address on Obstetrics, and dealt with tumours complicating pregnancy.

Dr. J. C. WEBSTER of Edinburgh spoke unfavourably of Pessaries in Gynæcology.

Dr. J. E. GRAHAM treated of the Influence of Mitral Lesions on Tuberculosis. The combination was rare. The heart lesion caused more forced respiration, the lungs were thus improved in nutrition, and to a certain extent fortified against the bacillus.

Tetany after Scarlet Fever and Non-Malignant Tumours of Tonsil were noticed, respectively, by Dr. MCCONNELL and Dr. HAMILTON.

Dr. SHEPHEED reported a successful case of Excision of the Scapula for Disease.

The officers elected for the ensuing year were Dr. V. H. Moore, Brockville, President; a Vice-President for each province; general secretary, Dr. F. N. G. Starr, Toronto; and treasurer, Dr. Small, Ottawa.

It was decided to meet again in Montreal in 1897 two days before the meeting of the British Medical Association.

A committee on Medical Legislation and Inter-Provincial Registration brought in an important report. As a practitioner licensed in one province might not practise in another, it was desirable that the existing law should be altered. A scheme was presented by the committee comprising a schedule of subjects for matriculation. Eight subjects were mentioned, including mathematics, mechanics, elementary chemistry, and a choice of French, Greek, or German. This had been agreed upon as acceptable by the representatives of the various provinces. As to professional education, provision was made for four sessions of not less than eight months, to begin only on the passing of the matriculation examination. As to examination, it was suggested that four examiners should be appointed for each province, who would use uniform examination papers or delegate their powers to a central board as might be decided upon after further study.

This report was ordered to be printed and sent to every medical council in the dominion. Discussion would go on during the year and the matter would be brought up for decision at the next meeting.

After various votes of thanks had been passed and the new President installed the Convention was closed, to meet again in Montreal in 1897.

This meeting was the largest in the history of the association.

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the First Examination for the degree of Bachelor of Medicine at the College of Medicine, Newcastle-upon-Tyne, in September the following candidates satisfied the examiners:—

OLD REGULATIONS.

1.—*Chemistry with Chemical Physics and Botany with Medical Botany.*—Ernest George Klumpp, St. Bartholomew's Hospital.

NEW REGULATIONS.

1.—*Elementary Anatomy and Biology, Chemistry, and Physics.*—Honours, First Class: Reginald Alderson, College of Medicine, Newcastle-upon-Tyne. Honours, Second Class: James Robert Burn, Frederic William Lambelle, Duncan Matheson Johnston, and Edward Turner Born, College of Medicine, Newcastle-upon-Tyne. Pass List: John Wilson Howard Morrison, Harold Richard Moxon, Thomas Smirk Percival Parkinson, Robert Peart, and Thomas Russell, College of Medicine, Newcastle-upon-Tyne; and Eleanor Shepheard, London School of Medicine for Women.

2.—*Chemistry and Physics.*—Hedda Alström, Margaret Joyce, and Grace Harwood Stewart, London School of Medicine for Women; Christopher Osmond Bodman, University College, Bristol; Joseph James French, Hubert Wolstenholme Horan, John Robert Mitchell, and Hugh Widdas, College of Medicine, Newcastle-upon-Tyne; Herbert George Harris, St. Bartholomew's Hospital; Harold Robert Dacre Spitta, St. George's Hospital; and Alfred Messer Thomas, Guy's Hospital.

3.—*Anatomy and Biology.*—Samuel Thomas Cochrane, Frederick Clarkson, Sydney John Snow Cooke, Charles Henry Gibson, Ernest John Lambert Kendle, B.A., Ralph Thomas Vaux, Stanley Raw, and Evelyn Edmund Percy Taylor, College of Medicine, Newcastle-upon-Tyne.

4.—*Elementary Anatomy, Chemistry, and Physics.*—Walter Asten, Ralph Tennyson Jupp, Henry Bates Thompson, and Walter Wakefield, Mason College, Birmingham; Henry Braund, Guy's Hospital; Philip Meyler Perkins, and Richard Thorne-Thorne, Jun., St. Bartholomew's Hospital.

5.—*Elementary Anatomy and Chemistry.*—James Henry Stormont, Mason College, Birmingham.

PRIZEMEN AND MEDALISTS AT THE METROPOLITAN MEDICAL SCHOOLS:—

SESSION 1895-6.

St. Bartholomew's Hospital.—Lawrence Scholarship and Gold Medal: S. Gillies. Brackenbury Medical Scholarship: J. Hussey. Brackenbury Surgical Scholarship: G. V. Worthington and H. Williamson (equal). Matthews Duncan Medal and Prize: G. E. Dodson and T. J. Horder (equal). Senior Scholarship in Anatomy, Physiology, and Chemistry: H. A. Colwell. Open Scholarships in Science, Chemistry, and Physics: J. S. Williamson. Biology and Physiology: C. S. Myers; Junior, R. C. Bowden and R. H. Paramore (equal). Preliminary Scientific Exhibition: J. C. M. Bailey. Jeaffreson Exhibition: H. A. Kellond-Knight. Kirkes' Scholarship and Gold Medal: G. A. Auden. Bentley Prize (Surgical): T. J. Horder. Hichens Prize: F. R. Brooks. Wix Prize: not awarded. Harvey Prize: (1) F. C. Borrow, (2) W. S. Danks; (3) L. A. Walker. Sir George Burrows Prize: T. J. Horder. Skinner Prize: not awarded. Practical Anatomy (Junior), Treasurer's Prize: (1) A. E. J. Lister, (2) A. T. Compton, (3) C. A. S. Ridout, (4)—Whitaker, (5) G. M. Seagrove, (6) J. S. Williamson, (7) J. C. Marshall and A. T. Pridham (equal), (9) A. R. Tweedie, and (10) A. H. John. Practical Anatomy (Senior), Foster Prize: (1) H. Burrows, (2) F. C. Borrow, (3) S. R. Scott, (4) C. S. Frost, (5) W. H. Leonard, (6) H. S. Thomas, (7) W. S. Danks, and (8) T. B. Haig. Shuter Scholarship: not awarded. Junior Scholarships: (1) R. H. Paramore, (2) A. R. Tweedie and J. S. Williamson (equal). Junior Scholarship in Chemistry (1895): (1) L. A. Walker, and (2) R. Walker.

Charing-cross Hospital Medical School.—Llewellyn Scholarship: certificate and £25, S. H. Berry. Golding Scholarship: certificate and £15, C. B. Wagstaff. Govenors' Clinical Gold Medal: not awarded; prize value, £3, S. J. Wareham. Anatomy (Senior): prize, P. L. Daniel; certificate, C. B Wagstaff; certificate, W. H. Passmore; certificate, W. H. Unwin; certificate, E. L. Lilley. Anatomy (Junior): certificate, B. A. Nicol. Biology: prize, A. G. Pitts; certificate, W. M. Anderson and F. R. Bishop (equal); certificate, J. B. Petley. Chemistry: prize, A. G. Pitts; certificate, G. B. Dixon; certificate, E. H. Bonney. Physiology (Senior): prize, W. H. Unwin; certificate (*proxime accessit*), P. L. Daniel; certificate, E. L. Lilley; certificate, W. H. Passmore; certificate, C. B. Wagstaff; certificate, C. A. Scott. Physiology (Junior): prize, A. G. Pitts; certificate (*proxime accessit*), B. A. Nicol; certificate, A. N. Leathem; certificate, J. E. Richards; certificate, W. A. Schlesinger; certificate, E. H. Bonney. Practical Physiology: prize, W. C. Rivers; certificate, G. O'Neill. Surgery: prize, G. O'Neill; certificate, F. Clarke; certificate, D. K. L. Nasmyth. Practical Medicine: prize, W. C. Rivers; certificate (*proxime accessit*), G. O'Neill. Materia Medica: prize, A. G. Pitts; certificate (*proxime accessit*), C. Lees; certificate, W. H. Passmore; certificate, R. J. Bell; certificate, G. B. Dixon; certificate, C. A. Scott; certificate, F. E. Anley; certificate, E. L. Lilley. Osteology: prize, A. R. Heath; certificate, A. G. Pitts. Practical Chemistry: prize, A. G. Pitts; certificate, F. H. Duncan; certificate, C. A. Scott; certificate, W. H. Passmore and M. White (equal). Forensic Medicine and Toxicology: prize, S. H. Berry; certificate, A. W. Abbott; certificate, W. Benton. Midwifery: prize, S. H. Berry. Pathology: prize, W. C. Bosanquet; certificate, S. H. Berry. Public Health: prize, T. A. Elwood; certificate, A. G. Everard; certificate, S. J. Wareham. Therapeutics: prize, S. J. Wareham; certificate, T. A. Elwood; certificate, J. G. Owen; certificate, A. G. Everard. Dental Surgery: prize, G. R. Spencer.

St. George's Hospital.—The William Brown Exhibition of £40 a year for three years to Horace M. Vernon, B.A.; the Brackenbury Prize in Medicine to H. M. Vernon, B.A.; the Brackenbury Prize in Surgery to C. R. Keyser; the Treasurer's Prize to H. W. Cooper; the Acland Prize to J. Howell Evans, B.A.; the Brodie Prize to H. M. Vernon, B.A.; the Webb Prize to H. G. Deller, B.A.; the Henry Charles Johnson Prize in Anatomy to H. G. Drake-Brockman, and certificates of honour to J. F. Paul and A. S. Morley; the Pollock Prize in Physiology to Lawrence Pick, and a certificate of honour to H. G. Drake-Brockman; Sir Charles Clarke's Prize to H. N. Coltart; the Third Year's Proficiency Prize to W. F. Tyndale; the Second Year's Proficiency Prize to H. G. Drake-Brockman, and a certificate to T. M. Neatby, M.A.; the First Year's Proficiency Prize to H. R. D. Spitta, and a certificate to L. F. Cope.

Guy's Hospital.—The Treasurer's Gold Medal for Clinical Medicine: Walter Ramsden, Oldham. The Treasurer's Gold Medal for Clinical Surgery: Robert Pugh Rowlands, Towyn, N. Wales. Golding-Bird Gold Medal and Scholarship for Sanitary Science: Henry William Beach, Herne-hill. Richard Bredin Prize for Clinical Study: Bertie Burnett Ham, Victoria, Australia. Michael Harris Prize for Anatomy: Caleb Thomas Hilton, Newton-le-Willows, prize, £10. The Arthur Durham Prizes for Dissection: (First Year's Students): James Alfred Butler, Brixton, prize, £5; Frederick Curtis, Staines, certificate; and Maurice Dunbar Wood, Sherborne, certificate. (Second Year's Students): Caleb Thomas Hilton, Newton-le-Willows; Arthur Rowland McLachlan, Brighton; and Russell Henry Jocelyn Swan, Camberwell, equal, £5 each. The Hilton Prize for Dissection: Caleb Thomas Hilton, Newton le-Willows; and Laurie Hugh McGavin, London (equal). Fourth Year's Prizes: Robert Pugh Rowlands, Towyn, N. Wales, prize, £25; Edmund Ivens Spriggs, Market Harborough, second prize, £10; and Charles Thompson Anderson, Cape Colony, certificate. Third Year's Prizes: Harold Wilson Bruce, Bow, prize, £25; Philip Turner, Earl's-court-gardens, second prize, £10: George Ernest Richmond, Leicester, certificate; William Taylor Milton, Blackheath, certificate; William Mussell-White, Northfleet, certificate; and Charles Leopold Granville Chapman, Grimsby, certificate. Second Year's Prizes (1895): Harold Wilson Bruce, Bow, prize, £25; George Ernest Richmond, Leicester, and Frederick Edward Walker, Hampstead (equal), £5 each; Philip Turner, Earl's Court-gardens, certificate. Dental Students, 1896: Kenneth Weldon Goadby, Reading, prize, £15; Guy Chatterton, Peckham-rye, certificate; and George Garnett Ellis, Southsea, certificate. First Year's Prizes (1895): Caleb Thomas Hilton, Newton-le-Willows, prize, £50; George Norman Meachen, Stoke Newington, second prize, £25; John Thomas Dunston, Farnham, certificate; Francis William Brook, Peckham-rye, certificate; John Tyley Montgomery McDougall, Saxmundham, certificate. Dental Students, 1896: Hubert Arnold George Butler, Cheltenham, prize, £10; Augustus Kendrew, Devizes, certificate: Victor George Smith, Faversham, certificate; and Bertram James Summerling, Leek, certificate. Practical Dentistry Prize: Guy Chatterton, Peckham-rye, prize, £10; Jacob Michael Cecil Jacobs, Shrewsbury, and Godfrey Naish, Winchester (equal), certificates. Open Scholarship in Arts: George Lewin, Clapham, £100; Frederick Goulburn Gibson, New Zealand, £50; Hugh Dorsett Kempthorne, Shrewsbury, certificate; Henry Francis Hatfield, Forest-hill, certificate; and Frank Seaver Scotney George, Notting-hill, certificate. Dental Student: Hubert Arnold George Butler, Cheltenham, £30. Open Scholarships in Science: Percy William Leopold Camps, Islington, £150; Stanley Hodgson, Brixton-hill, £60; Ernest Alfred Miller, Upper Norwood, certificate; and David Forsyth, Greenwich, certificate.

The London Hospital.—Price Scholarship in Science: £120, H. Balean. Price Scholarship in Anatomy and Physiology: £60, C. R. B. Wall. Entrance Science Scholarships: £60 scholarship, O. Eichholz; £35 scholarship, A. B. Soltau. Buxton Scholarships (Arts): £30 scholarship, F. Challans; £20 scholarship, C. A. Marsh. Epsom Scholarship (for students of Epsom College): not awarded. Clinical Medicine: £20 scholarship, A. B. Fry; honorary certificate, H. W. L. Barlow. Clinical Surgery: £20 scholarship, A. M. Barraclough and W. B. Dove (equal); scholarship (divided); honorary certificates, A. B. Fry and R. W. Wakefield. Clinical Obstetrics: £20 scholarship, A. M. Barraclough; honorary certificates, F. F. Ward and L. T. R. Hutchinson. Duckworth-Nelson Prize (biennial): £10, awarded 1895. Letheby Prizes: senior, £20, F. A. Johns; honorary certificates, R. Howard and H. P. Pollard; junior, £10, O. Eichholz; honorary certificates, H. Balean, C. Parker, and F. Challans. Sutton Scholarship: £20 scholarship, A. B. Fry. Hutchinson Prize (triennial): £35, no essay. Anatomy and Physiology: £25 scholarship, C. Pike; honorary certificates, W. R. Dunstan and G. H. Herbert. Anatomy and Biology: £20 scholarship, H. Balean and A. B. Soltau (equal); scholarship (divided); honorary certificates, O. Eichholz and F. Challans. Dressers' Prizes: £15 prize, A. F. Tredgold; £10 prizes, F. Berringer, Merry, and Morris; £7 10s. prize, G. E. Goode and H. J. May. Practical Anatomy: £2 10s. prizes, H. Balean, F. M. Morris, C. Pike, and H. D. Pollard. Andrew Clark Prize (biennial): £26, F. T. Waldron; honorary certificate, H. Innes.

St. Mary's Hospital.—Entrance Scholarship in Natural Science: 100 guineas, W. H. Wilcox, B.Sc.; 50 guineas, E. W. Holyoak; 50 guineas, J. Tattersall; 50 guineas, A. F. Haydon. University Scholarship: 50 guineas, R. R. Wade, B.A.; 50 guineas, G. S. Keeling, B.A. University Exhibition of 25 guineas: A. Ferguson MacCallan, B.A. Summer Session, 1895.—Third year: Practical Surgery, A. W. Sanders, prize, R. W. Dodgson and W. Fletcher, B.A., certificates. Second Year: Midwifery, E. W. Herrington, prize, A. Howell, certificate; Medical Jurisprudence, F. Ayre, prize, A. A. Bathe, certificate. First Year: Materia Medica, A. E. Horn, prize, B. F. Hussey, W. Sass, F. H. Sprague, H. J. Van Praagh, and E. O. Faulkner, certificates; Biology, T. Noy Leah, prize, C. W. Buckley, certificate; Practical Chemisty, H. C. Tayler, prize, W. Holmes, certificate; Chemistry, E. J. Manning, prize, E. C. Austin and T. L. Butler, certificates. Meadows' Memorial Prize (1895): A. W. Sanders, certificate. Winter Session, 1895-96,—Third Year: Medicine, W. Fletcher, B.A., prize, A. Howell and D. Brewer, certificates; Surgery, A. G. Butler, B.A., and A. Howard, prize (equal); Pathology, A. G. Butler, B.A., and D. Brewer, prize (equal). Second Year: Anatomy, A. Van Rosen, prize, H. J. Van Praagh and H. Agate, certificates; Physiology, C. W. Buckley, prize, H. Agate, O. R Ennion, and H. J. Van Praagh, certificates; Histology, C. W. Buckley, prizes, H. Agate and H. J. Van Praagh, certificates. First Year: Anatomy, W. H. Willcox, B.Sc., prize, J. Klein and E. W. Holyoak, certificates; Physiology, W. H. Willcox, B.Sc., prize, J. Tattersall, certificate. Prize in Ophthalmology of £10 10s.: E. W Herrington. Prize in Dermatology of £5 5s.: J. O. Skevington. Prize in Dermatology of £5 5s.: J. T. Leon, B.Sc. Clinical Surgery, 1894-95: A. H. Brodribb, prize; A. Burn, A. Howell, and J. H. Benulle, certificates. Clinical Medicine, 1894-95: A. Howell, prize; A. H. Brodribb and H. H. G. Knapp, certificates. Special Prizes, 1895.—No. 1, for general proficiency in Anatomy, Physiology (including Histology), Biology, and Chemistry (including Physics): C. W. Buckley. No. 2, for general proficiency in Anatomy and Physiology (including Histology): R. C. Leaning. No. 3, for general proficiency in Midwifery, Pathology, Medical Jurisprudence, and Materia Medica: Not awarded. No. 4, for general proficiency in Medicine and Surgery (including Operative Surgery): A. W. Sanders. Prosectors: C. W. Buckley and A. Von Rosen.

Middlesex Hospital.—Broderip Scholars: (1st) H. P. Noble; (2nd) C. W. Alford and C. B. Gittings (equal). Helley Prize: C. Roberts. Governor's Prize: C. Roberts. Second Years' Exhibition: C. G. Pugh. First Year's Exhibition: W. W. James and F. D. Blandy (*proxz. acc.*) Entrance Scholarships: J. S. Goodall and L. Lovell Keays. Exhibitions: R. W. D. Nankwill and F. D. Blandy. University Scholarship: C. H. Reissmann.

St. Thomas's Hospital.—Entrance Science Scholarships: First Scholarship, £150, and Certificate of Honour, F. B. Skerrett, Newcastle, Staffs.; Scholarship, £20, and Certificate of Honour, W. B. Fry, Streatham-hill. University Scholarship: Scholarship, £50, and Certificate of Honour, P. W. G. Sargent, Clifton. First Year's Students: The Wm. Tite Scholarship, £27 10s., and Certificate of Honour, C. F. Selous, Upper Norwood; College Prize, £20, and Certificate of Honour, W. B. Fry, Streatham-hill; College Prize, £10, and Certificate of Honour; F. B. Skerrett, Newcastle, Staffs.; Certificate of Honour, S. Hunt, Hampstead; Certificate of Honour, H. H. Kiddle, Peckham-Rye; Certificate of Honour, H. S. Stannus, Larkhill-rise. Second Year's Students: The Peacock Scholarship, £38 10s., and Certificate of Honour, J. Gaff, Kennington-road; College Prize, £20, and Certificate of Honour; H. T. D. Acland, Hyde-park-gardens; College Prize, £10, and Certificate of Honour, A. W. Jones, Portland-place. Third Year's Students: College Prize, £20, and second tenure of Musgrove Scholarship, and certificate of honour, H. E. Hewitt, Croydon; College Prize, £15, and certificate of honour, R. W. C. Pierce, Llandudno. Practical Medicine: The Mead Medal (founded by Mr. and Mrs. Newman Smith), A. W. Sikes, Garrycloyne, Blarney; certificate of honour, C. G. Seligmann, Maida Vale. Surgery and Surgical Anatomy: The Cheselden Medal (founded by the late George Vaughan, Esq.), J. P. Scatchard, Boston Spa; certificate of honour, G. D. Howlett, Balham Park-road; certificate of honour, L. Gilbert, Kensington. Pathology and Morbid Anatomy: The Bristowe Medal, E. L. Collis, Stourbridge; certificate of honour, J. S. Hall, Grantham. Surgery and Surgical Pathology: The Beaney Scholarship (£52 10s.), B. Dyball, Reigate; certificate of honour, E. O. Thurston, Panton-street. For Reports of Surgical Cases: The Solly Medal and Prize (£20), E. H. T. Nash, Bedford Park. For general proficiency and good conduct: The Treasurer's Gold Medal, J. P. Scatchard, Boston Spa. The following

distinctions in the University of London have been obtained by students of St. Thomas's Hospital during the past year:—Honours examinations (Univ. Lond.): Gold Medal in Surgery (B.S.), A. E. Russell; First Class in Forensic Medicine (M.B.), T. G. Nicholson; Exhibition and Gold Medal in Organic Chemistry and Second Class in Materia Medica (Intermed. M.B.), R. W. C. Pierce; Third Class in Anatomy and Second Class in Materia Medica (Intermed. M.B.), H. E. Hewitt; First Class in Chemistry (Prel. Sci.), C. A. Hill; and First Class in Zoology (Prel. Sci.), A. B. Lindsey.

University College Hospital.—Entrance Exhibitions: £137 11s., T. C. Savage of Bursiem; £57 15s. each, H. W. Reynolds of London and W. R. Scroggie of London. Atchison Scholarship (£55 per annum for two years): C. Bolton of Whitby. Atkinson Morley Scholarship (£45 per annum for three years): G. B. Hunt of London. Bruce Medal: H. J. Price of New Malden. Surgery (Professor A. E. Barker, F.R.C.S., Dean): gold medal, J. M. Martin of Exeter; silver medal, H. J. Price of New Malden.—Second Class: C. Bolton of Whitby and J. D. Russell of Greenwich. Chemistry (Professor W. Ramsay, Ph.D. F.R.S., Vice-Dean)—Chemistry and Chemical Physics (Conjoint Board): prize, C. A. Gill of Sidmouth.—Second Class: B. S. Bartlett of London and R. C. Richards of London.—Third Class: E. C. Foster of London. Physiology (Theoretical and Practical—Professor E. A. Schäfer, F.R.S.).—Senior Class—Second Class; H. Hawker of Belgaum, A. R. G. Pocock of Acton, and R. Row of Bombay.—Third Class: T. Evans of Cardiganshire, J. S. New of London, and D. P. Rockwood of Ceylon; Practical Work Prize: H. Hawker of Belgaum.—Junior Class: silver medal, H. V. Moxon of Ilfracombe; certificates, 2*, C. D. Hatrick of London, 3*, W. F. Addey of Lingfield.—Second Class: G. Maw of Shortlands, H. W. Reynolds of London, N. F Stallard of London, A. N. Stevens of Falmouth, and E. W. D. Swift of Sheffield.—Third Class: M. T. Male of East Chinnock, W. R. Scroggie of London, and C. W. Wirgman of London. Anatomy (Professor G. D. Thane, Sub-Dean)—Senior Class: silver medal, Hackworth Stuart of London.—Second Class: J. R. Simpson of Diss.—Third Class: H. S. Capper of London, W. H. Davis of Callington, and W. E. Peck of New Malden.—Junior Class: silver medal, H. V. Moxon of Ilfracombe; certificates, 2,* W. F. Addey of Lingfield; 3,* M. T. Male of East Chinnock.—Second Class: C. D. Hatrick of London and E. D. Swift of Sheffield.—Third Class: C. A. Gill of Sidmouth, G. Maw of Shortlands, W. R. Scroggie of London, and W. L. Steele of Devonport. Medicine (Professor F. T. Roberts, M.D., B.Sc.): gold medal, C. Bolton of Whitby; 1st silver, J. Shardlow of Clay Cross; 2nd silver, W. G. Savage of Blackheath.—Second Class: J. D. Russell of Greenwich, J. D. Shapland of Exmouth, and R. T. Thomas of Carmarthen. Pathology (Professor V. A. H. Horsley, M.B., B.S., F.R.S.—Morbid Anatomy): Tuke Silver Medal, Montague Dixon of Cheshunt; Tuke Bronze Medal, Campbell Dykes of London.—Second Class: W. R. Battye of Bristol. Practical Surgery (Bilton Pollard, B.S., F.R.C.S.): Erichsen Prize, C. Bolton of Whitby; certificate, 2,* J. C. H. Leicester of Dulwich.—Second Class: E. G. L. Goffe of Jamaica. Clinical Medicine (Professor Sydney Ringer, M.D., F.R.S.).—Senior Class: Fellowes Gold Medal, C. Bolton of Whitby; Fellowes Silver Medal, J. Shardlow of Clay Cross; certificates, 3,* W. L. T. Goodridge of Bath, C. B. Goring of London, J. C. H. Leicester of Dulwich, and J. D. Russell of Greenwich (equal)—Junior Class (Professor J. Rose Bradford, M.D., D.Sc., F.R.S.): Fellowes Silver Medal, Ernest Stock of Ceylon; certificates, 2,* W. R. Battye of Bristol, and P. G. S. Williams of Cardiff; 4,* M. Dixon of Cheshunt and D. N. Nabarro of London (equal).—Third Class: Campbell Dykes of London, F. G. Grapel of London, and C. E. Turner of London. Clinical Surgery (Professors Heath and Barker): Liston Medal, H. J. Price of New Malden. Clinical Dental Surgery (Lecturer, P. S. Spokes, M.R.C.S.): silver medals, C. Bolton of Whitby and H. J. Price of New Malden (equal); certificates, 3,* J. D. Russell of Greenwich and J. Shardlow of Clay Cross (equal).

* Obtained the number of marks qualifying for a prize.

London School of Medicine for Women.—Summer Session, 1895.—Materia Medica: Prize, Miss Carr and Miss Sharman (equal); Certificates, Miss Watts, Miss Leete, Miss Castledine, and Miss Hawker. Practical Organic Chemistry: Prize, Miss Iles; Certificates, Miss Bone, Miss Bryson, Miss Edmonds (equal), Miss J. Brown, Miss Erie Evans and Miss Carr (equal), Miss Fendick, Miss Murrell and Miss Turnbull (equal), Miss Sayer, Miss Watts, Miss Gowdey and Miss Amos (equal). Histology and Practical Physiology: Prize, Miss Castledine; Certificates, Miss Woodcock, Miss Edmonds, Miss Iles and Miss Clapham (equal), Miss Bone and Miss Erie Evans (equal), Miss Martindale and Miss Bryson (equal). Pathology: Prize, Miss M. Webb; Certificates, Miss E. Vaughan, Miss Vernon, Miss Flint and Miss Stoney (equal), and Miss M. Stewart. Forensic Medicine: Prize, Miss Hull; Certificates, Miss Vernon, Miss Despard and Miss Keith (equal), Miss Knowles. Winter Session, 1895–96: Physiology: Prize, Miss Roberts and Miss Turnbull (equal); Certificates, Miss Stevenson, Miss Murrell, Miss Edmonds and Miss S. Bonnerjee (all equal). Biology: Prize, Miss Maude Smith; Certificates, Miss Rocke, Miss Shepheard, Miss M. Williams, and Miss Courtauld. Physics: Prize, Miss Maude Smith; Certificates, Miss Rocke, and Miss Shepheard. Anatomy—first year: Prize, Miss L. Hamilton and Miss J. Lewin (equal); Certificates, Miss McDougall, Miss Woodcock, Miss Rocke, Miss S. Bonnerjee, Miss Rowntree, Miss Ivens, Miss Walters and Miss Ford (equal), Miss Maude Smith, and Miss Dobson. Anatomy—second year: Prize, Miss Turnbull; Certificates, Miss Edmonds, Miss Clapham, Miss Roberts, Miss Lovibond, and Miss Iles. Inorganic Chemistry: Prize, Miss Shepheard and Miss Maude Smith (equal); Certificates, Miss Rocke, Miss Courtauld, and Miss M. Williams (equal). Organic Chemistry: Prize, Miss Kelly; Certificates, Miss Edmonds, Miss L. Hamilton, Miss Iles and Miss J. Lewin and Miss N. Bonnerjee (equal), Miss Cousins, Miss Ford, Miss Woodcock and Miss Bone (equal), Miss Clapham, Miss Turnbull, Miss Stevenson, and Miss Robinson (all equal). Medicine: Prize, Miss Garrett Anderson; Certificates, Miss Vernon, Miss Kaye, Miss Knowles, and Miss O. Lewin. Midwifery and Gynæcology: First Evans Prize, Miss Vernon; Second Evans Prize, Miss Garrett Anderson; Third Evans Prize, Miss Flint; Certificates, Miss Watts and Miss M. Webb (equal), Miss Kaye, Miss Long, Miss Cornford, Miss Patch, Miss Knowles and Miss Sharman (equal), Miss Pantin, Miss O. Lewin, Miss Douie and Miss B. Webb (equal), and Miss L. Harris. Operative Midwifery: Evans Prize of 5 guineas, Miss Vernon; Certificates, Miss Patch, Miss O. Lewin, Miss Douie, and Miss Kaye. (No certificate is given under 66 per cent. of marks.) Entrance Scholarship for October, 1896, given by the Executive Council, value £30, awarded to Miss Hudson. Fanny Butler Scholarship, value £14 10s. a year, Miss Maude Smith. First Mackay Prize, value £20, Miss Hawker. Second Mackay Prize, value £20, Miss Pantin.

London School of Dental Surgery.—Saunders Scholar, R. L. Young; Ashs' Prize, T. W. Thew; Certificate of Honour, A. R. Heath. Winter Session, 1895–6; Dental Mechanics: First Prize, F. J. Padgett, and R. L. Young; Second Prize, A. R. Heath; Certificates of Honour, T. C. Myers, P. R. Cooper, H. Dunlop, J. H. Robertson, and J. C. Douglas. Metallurgy: First Prize, A. R. Heath: Second Prize, R. L. Young; Certificates of Honour, T. C. Myers and F. W. S. Metcalfe. Operative Dental Surgery: First Prize, R. L. Young; Second Prize, H. Humphries; Certificate of Honour, A. R. Heath. Summer Session, 1896; Dental Anatomy: First Prize, T. W. Thew and A. R. Heath; Second Prize, R. L. Young; Certificates of Honour, T. H. Miller, H. Westron, and W. W. James. Dental Surgery: First Prize, R. L. Young; Second Prize, N. Miller; Certificates of Honour, A. R. Heath, T. W. Thew, E. H. J. Smart, H. Westron, E. Joseph, J. L. Roper, J. C. Douglas, and W. W. James; Students' Society Prize, W. F. Forsyth, Jr. Prize presented by the President of the Students' Society for the best Casual Communication, F. J. Padgett.

University College, Bristol.—Winter Session: Medicine: R. Willcox, prize; and F. H. Rose, certificate. Surgery: F. H. Rose, prize; and R. Willcox, certificate. Senior Anatomy: H. S. Jenkins, prize; R. F. Moorshead, certificate; J. Phillips, and F. Cox. Junior Anatomy: M. H. Phillips, prize; J. R. Frost, certificate; T. Aubrey, C. O. Bodman, W. B. Prowse, S. R. Williams, and P. G. Stock. Summer Course of Anatomy: J. R. Frost, certificate; and W. B. Prowse. Physiology: H. S. Jenkins, prize; R. F. Moorshead, certificate; F. A. Coates, and J. Phillips. Practical Physiology and Histology: H. S. Jenkins, prize; and R. F. Moorshead, certificate. Chemistry: H. Hemsted, prize. Biology: S. L. Compton, certificate; and H. Hemsted. Summer Session: Midwifery: F. H. Rose, prize; F. P. Mackie, certificate; H. L. W. Norrington, and F. Anthony. Medical Jurisprudence: H. R. C. Newman, certificate; W. M. Bergin, and A. S. Cobbledick. Pathology and Morbid Anatomy: A. S. Cobbledick, prize; and W. M. Bergin, certificate. Operative Surgery: W. M. Bergin, prize; and A. S. Cobbledick, certificate. Practical Medicine, Surgery, and Midwifery: F. H. Rose, certificate; and H. L. W. Norrington. Pharmacology and Therapeutics: H. S. Jenkins, prize; E. V. Foss, certificate; and R. F. Moorshead. Materia Medica and Practical Pharmacy: T. Aubrey, prize. Practical Chemistry: H. Hemsted, prize; and K. H. Beverley, certificate.

Bristol Royal Infirmary.—Clark prize, the interest of £489, for third year's students: A. S. Cobbledick and R. Willcox (equal). Tibbits Memorial prize, of the value of nine guineas, for proficiency in practical surgery: E. W. Ormerod. Crosby Leonard prize, of the value of seven guineas, for proficiency in surgery: J. J. S. Lucas. Obstetric prize, of the value of three guineas: E. W. Ormerod. Ophthalmic prize, of the value of three guineas: M. C. Barber. Pathological prize, of the value of six guineas: F. D'Arcy Williams. Special certificates in obstetric medicine: A. B. Cridland, J. J. S. Lucas, G. W. B. Beverley, A. S. Cobbledick, and C. R. Dykes.

Bristol General Hospital.—Lady Haberfield Entrance Scholarship, the interest of £1000: A. Coleridge and R. G. Johnson, equal. Sanders Scholarship, of the value of £22 10s., for proficiency in medicine, surgery, and obstetric medicine: J. H. Bodman. Clarke Scholarship, of the value of £15, for proficiency in surgery: J. H. Bodman. Martyn Memorial Pathological Scholarships, each of the value of £10, for proficiency in pathology and morbid anatomy: October, J. H. Bodman and G. B. Price, equal; May, F. Anthony and W. Smith, equal. Committee Gold Medal, awarded to the student who has most distinguished himself during his career at the hospital and the college: J. H. Bodman. Committee Silver Medal, awarded to the next most distinguished student, W. M. Willis.

University of Durham College of Medicine.—Scholars: University Scholar, F. W. Lambelle; Dickinson Scholar, J. R. Adamson; Tulloch Scholar, Edward Gofton; Charlton Scholar, Chas. Salkeld, B.A.; Goyder Scholar, N. McCall Smith; Heath Scholar, G. P. Newbolt, M.B., F.R.C.S. Prizemen: Principles and Practice of Medicine, C. Salkeld, B.A.; Principles and Practice of Surgery, no award; Midwifery and Diseases of Women and Children, B. C. Stevens; Public Health, no award; Anatomy (senior), Edward Gofton; Anatomy (junior), R. Alderson; Anatomy (regional), no award; Dissections (senior), Edward Gofton; Dissections (junior), R. Alderson; Physiology, N. C. Bailes; Chemistry, Jas. R. Burn; Physics, R. H. Dix.

Leeds General Infirmary.—Hardwick Prize, S. T. Rowling; McGill Prize, H. H. Greenwood; Infirmary Scholarship, C. T. Matthews.

Owens College, Manchester.—Medallists—Descriptive Anatomy: Junior, E. F. Hill and I. W. Hall; Senior, H. Osborne. Practical Anatomy: Junior, W. Crabtree; Senior, E. W. Floyd. Physiology: Junior, W. Crabtree; Senior, J. Moreton. Gynæcology: A. H. Burgess. Medicine: R. Kelsall and J. C. Muir. Systematic Surgery: R. Kelsall. Operative Surgery: J. N. Sheldon. Pathology: R. Kelsall. Botany (Pharmaceutical): C. Dann. Dental Mechanics: First prize, J. Mahoney; second prize, H. N. Besford. Turner Medical Scholarship awarded to A. H. Burgess, B.Sc. Dumvill Surgical Prize awarded to A. H. Burgess, B.Sc.; *prox. acc.*, George Ashton. John Henry Agnew Scholarship (Diseases of Children), A. B. Smallman. Platt Physiological Exhibitions: Junior, W. Crabtree; Senior, Joseph Moreton, B.Sc.; *prox. acc.*, H. H. Broome.

Sheffield School of Medicine.—Entrance Scholarship, F. J. Birks; Clinical Medicine, £10, S. O. Heatherley. Clinical Surgery, £10, S. O. Hatherley. First Year's Prize, W. S. Inman. Second Year's Prize, N. Milner. Third Year's Prize, S. O. Hatherley. Fourth Year's Prize, H. England.

University College, Dundee.—Physics: Elementary Class for Medical Students—First Class, J. C. Kennedy and E. J. Tyrrell; Second Class, Bella Logie, R. E. Moorhead, W. L. G. Anderson, and Laura S. Sandeman. Physical Laboratory: First Class, G. B. Black; Second Class, H. Simpson and J. W. Forbes. Special Laboratory Class: Jessie Phillip, S. A. Kay, and A. E. Buckhurst. Evening Class: Miss Gardiner, A. Blackwood, and W. Ruxton. Chemistry: Physical Chemistry—First Class, S. A. Kay (prize), C. W. Cochrane, and A. R. Fulton; Second Class, W. Cormack. Senior Inorganic Chemistry—Second Class, S. A. Kay and C. W. Cochrane. Chemical Laboratory (names in alphabetical order): Senior Division—First Class, C. W. Cochrane, W. Cormack, Bessie N. Hamilton, and S. A. Kay; Second Class, A. R. Fulton and R. G. Thomson. Junior Division—First Class, J. C. Kennedy, R. E. Moorhead, R. Norrie, and D. S. Paterson; Second Class, W. L. G. Anderson, Laura S. Sandeman, and C. M. Smith. Carnelley Memorial Prize: David S. Paterson. Special Laboratory Prize (Best Notebook): W. Cormack. Practical Physiology: D. Ferrier and Annie M. Watson (equal), prizes; V. E. Sorapure, and C. W. Cochrane.

St. Mungo's College.—Chemistry, J. B. McVail; Anatomy, Harold Chaffer and William Battersby; Zoology, J. C. Douglas and J. B. McVail; Practical Zoology, W. S. Dickie; Physics, W. Dickie; Physiology, William Battersby; Materia Medica, Harold Chaffer; Surgery, C. W. M. Davidson: Practice of Medicine, J. Battersby; Clinical Surgery, J. Battersby; Clinical Medicine, C. W. M. Davidson; Pathology, C. W. M. Davidson; Gynæcology, R. A. Cameron; Practical Chemistry, D. S. E. Macnab; Botany, John Allan and D. Crombie; Practical Pathology, Harold Chaffer; Midwifery, Harold Chaffer; Forensic Medicine, Harold Chaffer; Operative Surgery, James Battersby; Clinical Medicine, J. Willet; Clinical Surgery, C. W. M. Davidson; and Psychological Medicine, A. McCredie.

Queen's College, Belfast.—Fourth Year: Anatomy and Physiology, O. E. McCutcheon, B.A., and G. A. Hicks (prize); Therapeutics and Pathology, A. L. McCully. Third Year: A. B. McMaster and G. H. Henry. Second Year: M. L. Rowan, B.A., and A. M. Thomson. First Year: Literary, S. C. Ellison; Science, James Quinn, B.A. General Class Examinations.—Zoology: Senior, W. D. Hamill; Junior, A. G. Heron, J. C. Rankin, David McMordie, A. L. Black. Botany: Senior, R. A. L. Graham, W. D. Hamill; Junior, A. L. Black, H. B. Steen, J. C. Rankin. Anatomy: Senior, A. B. McMaster; Junior (Division A.), J. E. Clements and David McMordie; (Division B.), Annie H. Crawford and J. W. West. Practical Anatomy: Senior, A. B. McMaster; Second Year: Annie H. Crawford, W. M. Hunter, and Alexandrina C. Huston; First Year: David McMordie and J. E. Clements. Physiology and Histology: Senior division, R. A. L. Graham and David J. McCay; Junior division, W. M. Hunter, Robert Hilton, and W. D. Hamill. Practical Physiology and Histology: R. A. L. Graham G. H. Grills, and A. B. McMaster. Medicine: David McCay and Wm. Simpson. Surgery: Second Year, O. E. McCutcheon, B.A., and R. W. G. Stewart; First Year, C. E. McDade, B.A., David McCay, and A. B. McMaster. Materia Medica and Therapeutics: Hugh Donnelly. Midwifery, Gynæcology, and Diseases of Children: R. W. G. Stewart, O. E. McCutcheon, B.A., David Fleck, and G. A. Hicks. Chemistry: Senior Division, Robert Hilton; Junior Division, W. J. Hogg and J. H. Reford, B.A. Practical Chemistry: Junior Division, Eleanor R. Sproull, J. A. Smith, S. S. Miskelly, and Robert Mathewson. Natural Philosophy: W. A. Stoops and John McCrea, B.A.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. C. Winkler, formerly Professor in Utrecht, has been appointed to the Chair of Nervous and Mental Diseases, and Dr. C. A. Lobry van Troostenburg de Bruijn has been appointed Ordinary Professor of General and Pharmaceutical Chemistry.—*Berlin:* Dr. E. Lesser of Bern has been appointed Extraordinary Professor of Dermatology.—*Bologna:* Dr. R. Gurrieri has been recognised as *privat-docent* in Forensic Medicine.—*Erlangen:* Dr. Spuler has been recognised as *privat-docent* in Anatomy.—*Freiberg:* Dr. Braatz has been recognised as *privat-docent* in Surgery.—*Iurieff (Dorpat):* Dr. Chermak of St. Petersburg has been appointed to the Chair of Comparative Anatomy and Embryology, in succession to Professor Barfwith.—*Lausanne:* Dr. Perret has been recognised as *privat-docent* in Surgery and Dr. Combe as *privat-docent* in Children's Diseases.—*Lemberg:* Dr. Ladislaus Niemilovicz has been promoted to be Ordinary Professor of Chemistry, Dr. Wenzel von Sobieranski of Marburg has been appointed Ordinary Professor of Pharmacology and Pharmacognosis, Dr. Andreas Obrzut of Prague has been appointed to the Chair of Anatomy, and Dr. Prus has been appointed to the Chair of General and Experimental Pathology.—*Moscow:* Dr. Zakharyin, the well-known Professor of Medicine, is about to retire, mainly, it is said, in consequence of perpetual disagreements with his students.—*Palermo:* Dr. F. de Grazia of Naples has been recognised as *privat-docent* in Medical Pathology.—*Rome:* Dr. Arcangeli has been recognised as *privat-docent* in Medical Pathology.—*Turin:* Dr. Gosio has been recognised as *privat-docent* in Hygiene and Dr. Carrara as *privat-docent* in Forensic Medicine.—*Vienna:* Dr. Rudolf Kolisch has been recognised as *privat-docent* in Internal Medicine.—*Wurzburg:* Dr. J. Müller has been recognised as *privat-docent* in Internal Medicine.

A CRAFTSMEN'S EXHIBITION. — The Royal Aquarium, sometimes the scene of sensational performances of which we are unable to take approving notice, is now offering an attraction in the shape of an exhibition of handicrafts. The "motor," which will soon become as familiar as the bicycle, is exhibited by Messrs. New and Mayne of Westminster, and is applied both to cycles and pleasure boats. Messrs. G. C. Fricker of Fleet-street have an interesting display of electrical appliances, including a new adaptation of the telephone to take the place of the ear-trumpet for the deaf. A modest stall, but one which deserves special attention, is that of Mr. R. G. Lacey, whose life-saving appliances exhibit some points of interest. The improved line-throwing apparatus and the drift buoy are as ingenious as they are simple and the bags for containing oil for "troubled waters" deserve more than passing attention. Among the exhibits at this stall is one which will be viewed with pleasure by all lovers of horses. It consists of a pole-head, by means of which a fallen horse can be instantly released. To enumerate the whole of the exhibits, which cover a very wide field, would occupy far too much space, but in passing we may direct attention to the "Torrent Washer" and the Brook Time checking clock.

FOOTBALL CASUALTY.—A well-known Alfreton player, in a recent match at Somercotes, Alfreton, sustained injuries to the groin, and died on the 1st inst. from peritonitis.

SUPERANNUATION ALLOWANCE.—Mr. Albert B. Day, M.R.C.S. Eng., late medical officer of the Brentford Union Workhouse and District Schools, has been granted a superannuation allowance of £128 1*s.* 8*d.* per annum.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Dr. W. D. Arnison of Newcastle-on-Tyne has been presented by the North-Eastern Railway Company's employés connected with the St. John Ambulance Association with a handsome case of salt cellars in acknowledgment of his services as instructor to the class.—Mr. G. Foggin, L.R.C.P., L.R.C.S. Edin., L.F.P.S.Glasg., of Newcastle-on-Tyne, has received the gift from the members of the ambulance class in connexion with the Newcastle School Board's Evening Classes at Westmorland-road Board School of a handsome walnut cabinet as a mark of respect and appreciation of his instruction in ambulance work.—Dr. L. A. Morgan of Liverpool has been the recipient of a silver biscuit-box from the members of the Brunswick St. John Ambulance Class, No. 2, as a token of esteem and recognition of his services as lecturer.

THE Committee of the Victoria Hospital for Children call the attention of their subscribers and well-wishers to the grand imperial fête, which will be held at the Royal Botanical Gardens, Regent's-park, in June next year, to commemorate the sixtieth year of Her Most Gracious Majesty's reign. One special day will be devoted to the free admission of Children selected from various schools in London. The following names appear among the preliminary patronage list:—H.R.H. the Duke of Saxe-Coburg and Gotha, K.G., H.R.H. the Duchess of Saxe-Coburg and Gotha, H.R.H. the Duke of Connaught, K.G., H.R.H. the Duchess of Connaught, H.R.H. the Princess Christian, H.R.H. the Princess Louise Marchioness of Lorne, H.R.H. the Princess Mary Adelaide Duchess of Teck, H.R.H. the Duke of Cambridge, K.G., his Grace the Duke of Argyll, K.G., her Grace the Duchess of Hamilton, his Excellency the Earl Cadogan, K.G., the Countess Cadogan, Viscount Chelsea, Viscountess Chelsea, Lady Mary Gordon, Lord Windsor, P.C., Lady Windsor, Lord Algernon Gordon Lennox, Lady Algernon Gordon Lennox, Lord Crewe, Lord Rookwood, Lady Rookwood, Lady Chitty, Lady Miller, Sir George Arthur, Bart., Sir Leslie Falconer, Bart., Lady Falconer, and the Hon. Lionel Ashley.

EXAMINATION IN SHORTHAND FOR STUDENTS.—The Society of Medical Phonographers proposes to hold an examination in shorthand for students of medicine commencing their first winter session. The first prize will be of the value of £2, and the second of £1. Extra prizes will be given should the number competing be sufficient. Accuracy in writing will be regarded as more important than speed. The examination will be held at any place in the United Kingdom at which there is a medical school, provided four students intimate their intention to come forward. Candidates will be informed of the time and place of the examination, which will be held in the end of October or the beginning of November. Students belonging to London schools who intend to present themselves are desired to send their names, before Oct. 15th, to the assistant honorary secretary, Mr. L. Eliot Creasy, 1, Windsor-road, Ealing. At the following schools the names of candidates will be received before Oct. 15th by the representatives of the society whose names and addresses are given:—Aberdeen: Dr. J. Scott Riddell, 415, Union-street. Birmingham: Dr. Wilson, 33, Paradise-street. Bristol: Dr. G. F. Atchley, Tyndal's-park. Dublin: Dr. William Thomson, 54, St. Stephen's-green, East. Edinburgh: Dr. Chas. W. Cathcart, 8, Randolph-crescent. Glasgow: Dr. J. Galbraith Connal, 3, West Garden-street. Manchester: Dr. Reynolds, 23, St. John's-street. Sheffield: Dr. Martin, Claremont, Glossop-road. Students of other schools than the above are requested to send their names to Mr. Creasy.

SINGULAR FATALITY AT BRIGHTON. — Two licensed watermen were suffocated at Brighton last week under peculiar circumstances. They were sleeping in one of the arches on the front which open on to the lower esplanade and which are enclosed and let to various tenants—aquatic clubs, tradesmen, and others. The bodies were found on Thursday evening by two employés of the gas company who were searching for an escape of gas. One of the company's mains was fractured in the ground beneath the arch, and both men when found had apparently been dead some hours. Artificial respiration was resorted to but without effect.

A MUNIFICENT GIFT TO THE ROYAL FREE HOSPITAL.—The committee of the Royal Free Hospital, Gray's-inn-road, have received through their secretary, Mr. Conrad W. Thies, a very liberal donation (£1700) from John Bentley, Esq., late of Highbury Grange, to enable them to pay off the debt remaining on the new front buildings and other improvements which have recently been carried out at a total cost of over £30,000, and which were publicly opened by Their Royal Highnesses the Prince and Princess of Wales last year. The committee have decided to name one of the new wards "The John Bentley Ward" as a token of their appreciation of Mr. Bentley's liberal benefactions to the Royal Free Hospital.

A FATAL CASE OF PYROGALLIC ACID POISONING.—A sad fatality has occurred at the village of Nutley, Sussex. The wife of a medical man who is not in practice, Mr. W. C. Browning, had been taking a tonic her husband had prescribed. She left the piano in the evening of the 4th inst. and went into the unlighted dining-room and took a dose from a bottle on the sideboard. Mr. Browning is an amateur photographer, and the damp having affected his chemicals in the harness-room he had placed them on the sideboard. A solution of pyrogallic acid was in a bottle similar to that containing the tonic. Mrs. Browning later the same evening, having complained that her medicine was very nasty, was seized with an attack of retching and said she believed she must have taken the wrong medicine in the dark. Mr. Browning said at the inquest that he thought of the photographic chemicals, but did not realise anything serious, being unaware that any of them were violent poisons. The pyrogallic acid was bought in powder and made up into solution according to a formula on the plate boxes. The acid was not scheduled as a poison nor was it labeled as such by the vendors. Deceased knew the chemicals were on the sideboard and Mr. Browning afterwards ascertained that the deceased must have taken one and a half ounces of the solution. The formula was one ounce of pyrogallic acid and twenty drops of nitric acid to six ounces of water. Another medical man was called in the day after the mishap, but death ensued from perforation of the stomach. The coroner said that Dr. Thos. Stevenson had never known a case of pyrogallic acid poisoning in a human subject. The jury by direction returned a verdict of accidental death, and the coroner intimated his intention of submitting the case to Dr. Stevenson and of suggesting to the Pharmaceutical Society that the acid should be scheduled as a poison.

BOOKS, ETC., RECEIVED.

BLACKIE AND SON, Old Bailey, London, E.C.
The Book of the Dairy: a Manual of Science and Practice of Dairy Work. Translated from the German of W. Fleischmann, Ph.D., by C. M. Aikmann, M.A., Sc.D., and R. Patrick Wright. 1896. Price 10*s.* 6*d.*

CHATTO AND WINDUS, Piccadilly, London.
Dr. Rumsey's Patient: a Very Strange Story. By L. T. Meade and and Clifford Halifax, M.D. 1896. Price 6*s.*

CHURCHILL, J. & A., Great Marlborough-street, London, W.
A Text-book of Bacteriology. By Geo. M. Sternberg, M.D., LL.D. Illustrated. 1896. Price 24*s.*
On Gall-stones or Cholelithiasis. By R. M. Brockbank, M.D.Vict. 1896. Price 7*s.*
Observations on Congenital Dislocation of the Hip. By Bernard E. Brodhurst, F.R.C.S. Third Edition. 1896. Price 2*s.* 6*d.*
Short Contributions to Aural Surgery. By Sir Wm. H. Dalby, F.R.C.S., M.B. Cantab. Third Edition. 1896. Price 5*s.*

CORNISH BROTHERS, Birmingham.
The Enlarged Cirrhotic Liver. By A. Foxwell, M.A., M.D.

FISCHER, GUSTAV, Jena.
Beitrag zur Histologie und Aetiologie des Carcinoms. Von Dr. Giuseppe Pianese. 1896.

GAY AND BIRD, Bedford-street, Strand, London.
Popular Essays upon the Care of the Teeth and Mouth. By Victor C. Bell, A.B., D.D.S. 1896. Price 3*s.* 6*d.* net.

JARROLD AND SONS, Warwick-lane, London.
The Popular Edition of the Ritual of Health. For the Grown. By H. C. Pattin. Vol. I. 1896. Price 1*s.* net.

LEHMANN, J. E., Munchen.
Band xi. Atlas und Grundriss der Pathologischen Anatomie. Von Dr. O. Bollinger. 1896.

LEWIS, H. K., Gower-street, London, W.C.
A Manual of Infectious Diseases. By E. W. Goodall, M.D. Lond., and J. W. Washbourn, M.D. Lond. 1896. Price 15*s.*
Disease and Defective House Sanitation. By W. H. Corfield, M.A., M.D. Oxon, F.R.C.P. 1896. Price 2*s.*
Notes on the more Common Diseases of the Eye. By R. W. Doyne, F.R.C.S. 1896. Price 2*s.*
Transactions of the Dermatological Society of Great Britian and Ireland. 1895-6. Vol. II. 1896.

OLDENBOURG, R., München.
Taschenbuch der Mikroskopischen Technik. Von Dr. A. Böhm und Dr. A. Oppel. 1896.

OLIVER AND BOYD, Edinburgh.
Royal Infirmary Cliniques. By Alex. James, M.D., F.R.C.P. Edin. 1896. Price 5*s.*

THE SANITARY PUBLISHING COMPANY, Fetter-lane, Fleet-street, London.
The Drainage of Villages. By Wm. Spinks, Assoc. M.Inst.C.E. Price 1*s.* 6*d.* net.

Annales Suisses des Sciences Médicales, Série 4, Livraisons 2, 3, and 4 (Carl Sallmann, Bâle and Leipzig, 1896).—What it Costs to be Vaccinated; by Joseph Collinson (Wm. Reeves, Fleet-street, London, 1896).—Proceedings of the Nebraska State Medical Society, Twenty-eighth Annual Session, 1896 (published by the Society).—The British Gynæcological Journal, Part 46, August, 1896 (J. Bale and Sons, Great Titchfield-street, London); price 3*s.* 6d.—Monatsschrift für Geburtshülfe und Gynäkologie, Band IV., August, 1896, Heft 2 (Williams and Norgate, Henrietta-street, Covent-garden, London).—Gynäcologische Nomenclatur; von Dr. R. Kossmann (Williams and Norgate, London, 1896); price 1*s.* 9*d.* net.—Die Gonorrhœ des Weibes; von Dr. Gustav Klein (Williams and Norgate, London, 1896); price 1*s.* 6*d.* net.—Die Behandlung der Syphilis; von Dr. F. Grimm (Williams and Norgate, London, 1896); price 2*s.* 6*d.* net.—Der Vaginale Kaiserschnitt; von Professor Dr. A. Dührssen (Williams and Norgate, London, 1896); price 1*s.* 9*d.* net.—Aetiologische Studien über Lepra; von Dr. Edward Ehlers (Williams and Norgate, London); price 1*s.* 10*d.* net.—Specielle Pathologie und Therapie; von Professor Dr. Hermann Nothnagel; v. Band, iii. Theil: Dysenterie (Ruhr); von Dr. Kartulis (Alfred Hölder, Wien, 1896).—The Horse: his Life, his Usage, and his End; by Colonel W. Lisle B. Coulson (William Reeves, Fleet-street, London, 1896); price 2*d.*—Magazines, &c., for September: Strand Magazine, Boys' Own Paper, Girls' Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Knowledge, Pall Mall Magazine, Windsor Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANGUS, HENRY BRUNTON, M.B., B.S. Durh., M.R.C.S., L.R.C.P., has been appointed Honorary Assistant Surgeon to the Royal Infirmary, Newcastle-upon-Tyne.

ARMITAGE, E., L.R.C.P., L.R.C.S. Edin, L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Grimsby Rural District Council.

BROWNING, B., L.R.C.P. Lond., M.R.C.S., D.P.H. Edin., has been re-appointed Medical Officer of Health by the Weymouth District Council.

BURGES, R. E., M.D., M.S. Irel., has been appointed Medical Officer of Health by the Hoole Urban District Council.

CLARKE, ASTLEY V., M.B., B.C., B.A. Cantab., M.R.C.S., L.R.C.P., has been appointed Honorary Assistant Physician to the Leicester Infirmary, vice G. W. Roll, resigned.

COATES, W. H., M.A., M.B., M.R.C.S., L.R.C.P., L.S.A., L.S.Sc., F.C.S., has been appointed Acting Medical Officer to the Patrington Union and Medical Officer of Health, vice J. F. Land, resigned. Also gazetted Admiralty Surgeon and Agent to Coastguards, South Holderness, vice J. F. Land, resigned. Also appointed by the Elder Brethren of Trinity House Surgeon in charge of Spurn Lighthouse, vice J. F. Land, resigned.

DENNING, R. N., M.D., L.R.C.S. Irel., has been re-appointed Medical Officer by the Elland District Council.

DUNCAN, J. D., M.B., C.M. Edin., has been appointed Senior House Surgeon to the Cumberland Infirmary, Carlisle.

FINDLAY, GEO., M.B., C.M. Aberd., has been appointed Medical Officer of Health for the Shipton-on-Stour Rural Sanitary District, vice T. H. Hitchins.

FISH, CECIL E., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer for the Workhouse and Assistant to the Superintendent of the Infirmary of the Parish of Paddington

FREER, JOHN H., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Rugeley District Council.

GLAISTER, J., M.D., C.M. Aberd., D.P.H. Camb., has been appointed Medical Officer of Health for Clerkenwell, vice Griffith, retired.

HACKETT, J. C., M.D., M.S. Irel., has been appointed Medical Officer for the Dungarvan Union.

HARDMAN, F. H., M.B., M.S. Edin., has been appointed Medical Officer of Health for the Teme (Hereford) Rural Sanitary District.

HOWARTH, WILLIAM J., M.D. Vict., D.S.Sc. Vict., has been appointed Medical Officer of Health for the County Borough of Bury, Lancashire.

JAMES, ERNEST W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for Hardingham Sanitary District of the Mitford and Launditch Union.

LAWSON, THOS. C., M.R.C.S., has been appointed Medical Officer for the Brafield Sanitary District of the Hardingstone Union.

LUKE, THOMAS D., M.B., B.Ch. Irel., has been appointed Resident Physician to the Hazlewood Hydropathic Establishment, Grange-over-Sands, Lancashire.

MCLAY, ROBT., M.D., C.M. Glasg., has been appointed Medical Officer of Health for the Horncastle Urban Sanitary District, vice H. George.

MURRAY, WILLIAM, M.A., M.B., C.M. Aberd., has been appointed Assistant House Surgeon to the Preston and County of Lancaster Royal Infirmary.

PARTINGTON, WM., M.B., C.M. Glasg., has been re-appointed Medical Officer of Health by the Tunstall Urban Council.

ROSS, JAMES A., M.B., C.M. Aberd., has been re-appointed Medical Officer of Health by the Penistone Urban District Council.

SCOTT-BROWN, GEORGE, M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Cumberland Infirmary, Carlisle.

SHACKLETON, WM., W., M.D., B.S. Dubl., has been appointed Medical Officer for the Schools of the St. Pancras Parish.

STARKIE, E. G. B., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Fylde Rural District Council.

STUART, JOHN A. E., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for the Borough of Batley.

THURSFIELD, W. N., M.D. Edin., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the Borough of Wenlock.

TUXFORD, ARTHUR, M.D. Edin., has been re-appointed Medical Officer of Health to the Urban Sanitary Authority, Boston, and to the Sibsey Rural District Council.

WARNER, FRANCIS, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng., has been appointed Physician to the London Hospital, vice Samuel Fenwick, resigned.

WRIGHT, R. H., M.D., C.M. Edin., has been appointed Medical and Vaccination Officer for the Osbournby Sanitary District.

WELFORD, G. E., M.D., C.M. Aberd., M.R.C.S., has been appointed an Honorary Physician to the Sunderland Infirmary.

WILSON, J. H., M.B., B.S. Durh., has been appointed Medical Officer of Health by the Wigan Rural District Council.

WOODFORDE, Dr., has been appointed Medical Officer of Health by the Hungerford Rural District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident Assistant House Surgeon. Board, lodging, and washing in the Hospital, but no salary.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board, washing, lodging, &c.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician for six months. Salary £50 per annum, board, lodging, and washing provided in the house.

BRIXTON, STREATHAM, AND HERNE-HILL DISPENSARY.—Resident Medical Officer. Salary £150, with furnished apartments, attendance, coal, and gas.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Non-resident Clinical Assistants, for three months, on payment of five guineas.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary £100 per annum, increasing by £10 yearly to £120 a year, with furnished apartments, board, washing, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board, lodging, &c., provided. No salary.

FULHAM UNION.—Assistant Medical Superintendent. Salary £120 per annum, increasing £10 yearly to a maximum of £150, with board, furnished apartments, attendance, and washing.

GLASGOW EYE INFIRMARY.—Assistant House Surgeon. Salary £60.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

JERSEY GENERAL DISPENSARY AND INFIRMARY, Aquila-road, St. Heliers, Jersey.—Resident Medical Officer, unmarried. Salary £120, with furnished rooms and attendance.

LONDON HOSPITAL, Whitechapel-road, E.—Assistant Physician.

NEWCASTLE-ON-TYNE DISPENSARY.—Resident Medical Officer, for three years. Salary £250 per annum, with furnished residence.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Mount Vernon, Hampstead, N.W., and Fitzroy-square, W.—Assistant Physician. Applications to the Secretary, at the Office, 41, Fitzroy-square, W.

OWENS COLLEGE, Manchester.—Senior and Junior Demonstrators in Physiology. Salaries, £150 rising to £200, and £100 rising to £150 respectively. Applications to the Registrar.

PADDINGTON-GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon, for six months. Salary at the rate of £50 per annum, with board and residence.

PARISH OF ST. MARYLEBONE, London.—Assistant Medical Officer at the Infirmary, Rackham-street, Ladbroke-grove-road, Notting-hill. Unmarried. Salary £130 per annum, with furnished apartments, rations, and washing. Applications to the Clerk to the Board, Guardian Offices, Northumberland-street.

PARISH OF ST. MATTHEW, Bethnal-green, London.—Male Junior Assistant Medical Officer for the Workhouse at Waterloo-road, E., for six months. Honorarium £30, with rations, furnished apartments, and washing. Applications to the Clerk, Guardians' Offices, Bishop-road, N.E.

PATRINGTON UNION.—Medical Officer for the Patrington Workhouse. Salary £24 per annum, to include drugs and medicine. Applications to the Clerk, Patrington, near Hull.

PUBLIC DISPENSARY, 59, Stanhope-street, Clare-market, London.—Resident Medical Officer. Salary £105 per annum, with furnished apartments, coals, and gas.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields.—Senior House Surgeon.

RURAL DISTRICT COUNCIL OF PATRINGTON.—Medical Officer of Health for the Rural District of Patrington, for one year. Salary £50 per annum. Applications to the Clerk, Patrington, near Hull.

SHEFFIELD UNION WORKHOUSE INFIRMARY.—Junior Assistant Medical Officer, unmarried, at the Workhouse Infirmary, Fir Vale, Sheffield, for six months. Salary of £12 for that time, and furnished apartments in the Infirmary, with board and washing. Applications to the Clerk to the Guardians, Union Offices, West Bar, Sheffield.

ST. LUKE'S HOSPITAL, London, E.C.—Clinical Assistant, for six months, board and residence provided.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, London.—Assistant Resident Medical Officer for six months. Salary at the rate of £50 per annum, with furnished apartments, attendance, coal, and light.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months. Board and lodging provided.

WEST RIDING ASYLUM, Wakefield.—Two Resident Clinical Assistants for six months. Board and furnished apartments provided.

Births, Marriages, and Deaths.

BIRTHS.

ARKWRIGHT.—On Sept. 15th, at Townsend House, Halesowen, Worcestershire, the wife of Joseph A. Arkwright, M.D. Camb., of a daughter.

BLIGH.—On Sept. 4th, at Minley, Caterham Valley, the wife of William Bligh, M.D., B.S. Lond., &c., of a daughter.

JONES.—On Sept. 13th, at Otarama, Cowley-road, Oxford, the wife of Arthur Wentworth Jones, M.A., M.R.C.S., L.R.C.P., F.C.S., of a daughter.

JOULE.—On Sept. 13th, at Maida-hill West, W., the wife of John S. Joule, M.D. Lond., of a son.

OPIE.—On Sept. 13th, at Winchester House, Worthing, the wife of Edward A. Opie, M.B., of a son.

OXLEY.—On Sept. 13th, at Forest Villa, Star-lane, Buckhurst-hill, the wife of Fredk. J. Oxley, M.R.C.S., L.R.C.P., of a son.

SANSOM.—On Sept. 14th, at The Glen, West-end-lane, West Hampstead, the wife of H. Arthur Sansom, M.D. Lond., of a daughter.

SMURTHWAITE.—On Sept. 9th, at 7, Victor-terrace, College-park, Harrow-road, N.W., the wife of T. R. Smurthwaite, L.S.A., of a son.

SPRIGGE.—On Sept. 13th, at 2, Essex-villas, Kensington, the wife of S. Squire Sprigge, M.B., B.S. Cantab., of a son.

MARRIAGES.

ADAMS—BOSTOCK.—On Sept. 10th, at the Parish Church, Beckenham, Charles Edmund Adams, M.R.C.S., &c., of West Norwood, to Ethel Alice, elder daughter of B. F. S. Bostock, Langdale, Beckenham.

ANDERSON—ENNIS.—On Thursday, Sept. 10th, at St. Heliers Parish Church, Jersey, by the Rev. E. Eliot, B.C.L., incumbent of St. Matthew's, Millbrook, Jersey, assisted by the Rev. S. S. Stitt, Curate of the Parish Church, Joseph Anderson, M.B. Aberd., of Limehurst, Preston, Lancashire, to Mary Georgina, only daughter of George Ennis, Esq., R.N., of The Glen, Beaumont, Jersey.

BOWES—BEECROFT.—On Sept. 9th, at the Parish Church, Sutton-in-Ashfield, by the Rev. F. Brodhurst, vicar of Heath, assisted by the Rev. F. B. Hyde, Joseph Edward Bowes, M.B., C.M., Rishton, Lancs., to Mary, second daughter of C. B. Beecroft of Sutton-in-Ashfield.

MAILLARD—BERESFORD.—On Sept. 9th, at Woolstaston, W. J. Maillard, M.D., Surgeon R.N., to Marian Edith, daughter of the late William Beresford, formerly of Waterford Hall, Leicestershire.

MASON—SHAW.—On Sept 12th, at St. James's, Holloway, N., by the Rev. S. W. Chorlton, M.A., Frank Mason, M.B., C.M. Edin., M.R.C.S. Eng., L.R.C.P. Lond., of Handsworth, Sheffield, to Kate Firth, daughter of George Shaw, Esq., High Hazels Hall, Sheffield.

SHARPE—BRIGG.—On Sept. 9th, at the Devonshire-street Congregational Church, Keighley, William Cecil Sharpe, M.B., C.M., of Matlock, to Mary Margaret, only daughter of John Brigg, Esq., M.P., of Kildwick Hall, Keighley.

SMITH—CARTER.—On Sept. 16th, at Clapton-park Chapel, Thomas Smith, M.R.C.S., L.R.C.P., of St. Thomas, Exeter, to Eliza Ruth, elder daughter of Edwin J. Carter, of Frognal, Lower Clapton, N.E.

WILKIN—MORTLOCK-WALLER.—On Sept. 9th, at Cherryhinton Church, by the Rev. W. H. Cory, late Curate of Meldreth, Robert Hugh Wilkin, M.R.C.S., L.R.C.P., of Wickham Brook, Suffolk, to Fanny Louisa, eldest daughter of W. Mortlock-Waller.

DEATH.

MOORE.—On Sept. 9th, at Portland-place, W., aged 68, Sir William James Moore, K.C.I.E., Hon. Physician to the Queen, late Surgeon-General, Indian Medical Service, Bombay.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, Sept. 17th, 1896.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Dry Bulb	Wet Bulb	Solar Radiation in Vacuo	Maximum Temp in Shade	Min Temp	Rainfall	Remarks at 8.30 A.M.
Sept. 11	29·75	S.W.	60	58	86	63	54	0·70	Fine
,, 12	29·77	S.	62	61	80	65	58	0·06	Cloudy
,, 13	29·44	S.W.	65	62	84	64	60	0·65	Cloudy
,, 14	29·47	S.W.	61	59	108	63	55	0·42	Cloudy
,, 15	29·67	W.	59	57	109	69	57	...	Cloudy
,, 16	30·01	S.W.	57	55	116	70	52	0·03	Fine
,, 17	30·09	S.W.	60	58	80	65	56	0·05	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index for the first half-yearly volume for 1896 was given in the issue of June 27th. The practice of supplying loose copies has been discontinued, the Index having been placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 are now ready. Bound in cloth, gilt lettered, price 18*s.*

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, or post free 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

"WANTED, AN APPARATUS FOR THE INHALATION OF COMPRESSED AIR."

To the Editors of THE LANCET.

SIRS,—In reply to "Pneumatic" in THE LANCET of Sept. 12th, Waldenburg's pneumatic apparatus may be had from us, price £10 10s.

We are, Sirs, yours respectfully,

KROHNE AND SESEMANN.

8, Duke-street, Manchester-square, W., Sept. 14th, 1896.

Pharmakos.—The books recommended under the circumstances are:—Chemistry, Remsen's "Inorganic Chemistry"; Physics, Deschanel's "Natural Philosophy"; Biology (Theoretical), Ainsworth Davis (two parts); (Practical) Huxley and Martin (edited by Howes and Scott). Howes's "Atlas of Practical Elementary Biology" would be very useful. Davis's Biology was written specially for the examination. Our Students' Number of Sept. 5th, 1896, contains notes on many more treatises that might be consulted with advantage, but we have limited ourselves in our recommendations in accordance with the terms of our correspondent's letter.

WHAT IS A MONSTROSITY?

"DEFINITION" is proverbially "dangerous," as committing its author to a view or opinion which later experience may modify or even reverse. It is especially so in the attempt to define "monstrosity," which, if brought under definite law or a regular recurrence of identical characteristics, ceases to be "monstrosity" and becomes a normal, if rare, phenomenon. M. Isidore Geoffroy Saint-Hilaire, who wrote the still classic treatise on teratology, seems to have been well aware of this, cautiously defining "monstrosities" as "une anomalie grave," which seems simply calling the same thing by a different name. But, while unable to define it, we have an intuition of what it is and may limit our attention to the varying forms it takes. One fact has been clearly established as against ancient and mediæval teaching—to wit, that "monstrosity" is as frequent among the lower forms of life, animal and vegetable, as in man, thereby disposing of the theory (for it was nothing more) that maternal phantasy or impressionability—denied to the unimaginative brute—is responsible for what was believed to be the commoner occurrence of perverted growth or diseased development in the human than in the animal economy. A replica of the Siamese Twins saw the light lately in a Venetian Commune. Almost on the same day a monstrosity not less striking was produced in another Venetian commune—that of Verona—the birth of two sheep (twins) having six legs each. The two supernumerary legs are placed near the two hind ones and possess the same proportions; however, they are deficient in muscular strength and do not touch the ground. The two sheep, therefore, walk on four legs only, having no advantage over their normal fellows, but rather suffering from *the'r embarras des richesses*. Their owner, disinclined to have them killed and preserved in alcohol for the local museum, is said rather to congratulate himself that he can make a better bargain with the butcher, and instead of eight legs of mutton dispose of twelve.

A. N. S.—The matter is one entirely between our correspondent and his chief. Presumably his chief expects him to be at a certain place between certain hours. If he is at another place between those hours, however easy of access that place may be, and however reasonable the motives which take him to it, the fact remains that he has not fulfilled the orders of his superior and that his superior must be allowed to judge of his conduct. With regard to the employment of time not actually allotted by the superior to be spent in the surgery the rules of ordinary discretion prevail. One thing that our correspondent must recollect is that anything like neglect of his chief's interests because of the tedium of his own situation would be very blameworthy.

"THE REMUNERATION OF LOCUM-TENENTS."

To the Editors of THE LANCET.

SIRS,—"Temperantia" misunderstands me. I did not say that three guineas was more than a locum-tenent deserves, but that it was more than a very considerable proportion of incumbents could afford. Therefore I assert that it is not necessarily "mean" in the incumbent to offer a lower fee. That the locum-tenent is often unemployed does not affect this point; nor does it invalidate my statement that at three or two guineas a week he is far better paid for the work he actually does than is the average general practitioner. As to your correspondent's "humble opinion" that a practitioner can always lay by from six to nine guineas I can only say that I fervently wish I could agree with him.

I am, Sirs, yours faithfully,

Sept. 14th, 1896. FAIRNESS.

THE CONTAGIOUS DISEASES ACTS.

WITH regard to a communication from a member of the Legislative Council of New Zealand enclosing a report of the Army Sanitary Commission on the System of Compulsory Lock Hospitals in India, we may say that little or no value is to be attached to the experience of India as a guide for what should be done elsewhere. Although it may be admitted that the conditions in that country are so exceptional as to render legislative measures very difficult of application, it is nevertheless the fact that venereal diseases have greatly increased there since the abrogation of the Contagious Diseases Acts, and it is certainly the general opinion that repressive measures in this direction capable of coping with the evil are most urgently needed for the protection of the European army in India. From a moral and social, as well as a medical, point of view we hold that legislative measures for limiting the spread of these diseases are wise, necessary, and justifiable measures, and we would in connexion with this subject refer to an annotation on "The Health of the Army in India" in THE LANCET of Sept. 12th. The Legislative Council of New Zealand will, we trust, continue to refuse to repeal the Act in force there.

Dr. Honigmann (Breslau).—We do not quite understand upon what grounds the request is made to us.

AN ANGLO-CINGALESE WEDDING.

A COLUMBO newspaper reports the marriage of Miss Rockwood, daughter of Dr. Rockwood, of Emms, Maradana, with a native gentleman, Mr. Navuk-Arasu, and gives a description of the ceremony, which was partially carried out in accordance with ancient Hindoo rites. The invitations were "as usual," accompanied by a betel leaf, and on arrival the guests, having been most hospitably received by the medical man and his wife, "seated themselves on costly carpets in pursuance of the custom which proclaims that on these occasions each of those present shall be on terms of perfect equality." Handsomely chased trays of betel and arecanut were handed round, and among other entertainments there was "a gorgeous illuminated procession of Nattu Chetty merchants, with plenty of native music and a grand display of fireworks." The bride, who was attended by her sister, Miss J. Rockwood, and Miss Nagalingam, was attired in a beautiful silk *chela* embroidered with pink, and sat on the *mana vera*, or bride's seat, under a magnificent canopy; while the bridegroom, supported by a number of relatives and friends, proceeded to tie the *thali*, which was made of wrought gold, round her neck. Meanwhile the musicians "played their wildest," and if there be any luck in noise Mr. and Mrs. Navuk-Arasu ought to do well. Then came the presentation of the *kurai*, or bridal cloth; and finally at 10.30 o'clock the guests, having undergone a plenteous besprinkling with rose water, took their departure, after once more partaking of betel and arecanut.

J. P.—After attendance on a case of puerperal fever the most important precaution for a medical man to take, in order that the infection may not be conveyed to his other patients, is not abstention from practice for any particular time, however long. The essential thing is complete personal disinfection—Turkish bath or hot bath—complete change of clothes, taking off coat and turning up shirt sleeves at the case, and last, but most essential of all, complete disinfection of the hands before making a vaginal examination as follows:—The nails being short, thoroughly scrub the hands and nails with soap and hot water. Rinse off all soap in fresh water and then scrub hands and nails in a solution of perchloride (1 in 1000) with another nail brush free from soap. Avoid vaseline and oils for lubricating finger; if any lubricant is used, glycerine of perchloride (1 in 1000) is best.

PROCEDURE AT CORONERS' INQUESTS.

To the Editors of THE LANCET.

SIRS,—At an inquest held lately in which the post-mortem appearances and cause of death were given by a medical man present the deputy coroner stated to the jury that he would now call Dr. So-and-so (a consulting physician who saw the case before death) as an expert and request him to cross-examine the previous medical witness. This was done, with the result of a difference of opinion between the two doctors. The coroner then took the evidence of the expert as a medical witness, after which it was suggested to the coroner to allow the first medical man to put a few questions to the expert, which he would not, however, permit. I shall be thankful, Sirs, to have your opinion as to: Firstly, whether the coroner was not pursuing a most irregular course in allowing one witness to cross-examine another; and, secondly, whether the so-called expert was not strangely forgetful of medical etiquette in acceding to the request to cross-examine a brother practitioner. Would it not have been more correct to have tendered his evidence and left it to the jury? I enclose my card and am,

Yours faithfully,

Sept. 7th, 1896. CYCLOPS.

*** The coroner's course was not regular. The consulting physician should not have accepted the position thrust on him.—ED. L.

Mr. Clark W. Harrington, J.P.—1. The work by the late Surgeon-Major S. E. Maunsell, "Notes of Medical Experiences in India, principally with reference to Diseases of the Eye," published by Mr. H. K. Lewis, 136, Gower-street, is an interesting little book, but it does not deal with the special point—the effects of malaria and army service on vision—referred to by our correspondent, nor are we acquainted with any work which will give positive data as to the effect of malaria or army service exposure on vision, especially in regard to myopia and errors of refraction. Reference might be made to Dr. J. S. Billings's work; Dr. Whitelegge's "Hygiene and Public Health," published by Messrs. Cassell and Co.; Parkes's "Practical Hygiene," edited by Brigade-Surgeon-Lieutenant-Colonel Lane Notter, and Wilson's "Handbook of Hygiene," both published by Messrs. J. & A. Churchill, London; or the "Handbook of Hygiene," by Surgeon-Major Davies, published by Messrs. Griffin and Co., Exeter-street, Strand.

FEIGNED INSANITY.

DR. IRVING C. ROSSE of Washington mentions in the *Maryland Medical Journal* that a young woman connected with a daily newspaper recently feigned insanity with such success as to deceive two Washington medical men. They unfortunately signed her commitment to an asylum, where she remained several days, and on being released wrote a sensational account of her experiences.

THE NEW PHOTOGRAPHY.

MESSRS. BRADY AND MARTIN have been awarded a silver medal for their special vacuum tube for the Roentgen photography, a bronze medal for apparatus to demonstrate the phenomena of heat, light, sound, electricity, magnetism, &c., and another bronze medal for their meteorological apparatus all of which have been exhibited at the Health Exhibition held at Newcastle in connexion with the Congress of the Sanitary Institute.

ERRATUM.—The following is a list of the staff of the Queen's Hospital, Birmingham, which was inadvertently omitted from our Students' Number, page 696. Consulting Physician: Sir J. Sawyer. Consulting Surgeon: Mr. F. Jordan. Physician: Dr. Carter, Dr. Suckling, and Dr. Foxwell. Surgeons: Mr. J. St. S. Wilders, Mr. B. May, Mr. J. Lloyd, and Mr. F. Marsh. Ophthalmic Surgeon: Mr. Priestley Smith. Obstetric Officer: Dr. Purslow. Physician for Out-patients and Pathologist: Dr. Kauffmann. Casualty Surgeons: Mr. J. T. J. Morrison and Mr. J. H. Clayton. House Physicians: Mr. W. d'E. Emery and Mr. G. H. E. Bekenn. House Surgeons: Mr. W. Chapman, Mr. G. J. Branson, and Mr. A. W. Haines. Obstetric and Ophthalmic House Surgeon: Mr. F. G. Messiter. Secretary and General Superintendent: Mr. Arthur Hulme.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Liverpool Daily Post, Yorkshire Post, Leeds Mercury, Bristol Mercury, Lincolnshire Chronicle, Public Health, Christian Globe, Brighton Gazette, Aberdeen Journal, Surrey Mirror, Sanitary Record, Northern Guardian, Mining Journal, City Press, Ballinrobe Chronicle, Staffordshire Advertiser, Local Government Journal, Scotsman, Times of India, Pioneer Mail, Surrey Advertiser, Builder, Bristol Times, Architect, Newcastle Journal, Leicester Post, South Wales Daily News, Western Morning News, East Anglian Daily Times, Manchester Guardian, Sheffield Independent, Bradford Observer, Sussex Daily News, Dundee Courier, Norfolk Daily Standard, Berry Free Press, Perthshire Advertiser, Reading Mercury, Widnes Weekly News, Hertfordshire Mercury, Local Government Chronicle, Wigan Examiner, Hampshire Advertiser, Le Figaro, Bombay Gazette, Brisbane Telegraph, Woking Observer, Oldham Daily Standard, Newcastle Daily Chronicle, Beverley Recorder, Grimsby News, Jarrow Express, Worcester Echo, Huddersfield Chronicle, Cornish Telegraph, Birmingham Mail, Sheffield Daily Telegraph, West Middlesex Herald, Hereford Mercury, Mid-Surrey Gazette, &c., &c.*

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